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THE

GLASGOW MEDICAL JOURNAL.

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No. I. January, 1913.

ORIGINAL ARTICLES.

THE OVUM IN RELATION TO STERILITY AND ABORTION.[1]

By JOHN LINDSAY, M.A., M.D.

Ladies and Gentlemen,—Again I thank you for electing me to the president's chair. I assure you that I greatly value the honour of being chosen to succeed—at however great a distance of merit—men whose personal distinction as obstetricians and gynæcologists, and whose contributions to the advancement of these branches of medicine have won for the Society a place of repute among kindred associations. Service of that kind is not to be expected of me. I can only hope that I may prove equal to any opportunity that may offer of promoting the usefulness of the Society as a means of stimulating interest in, and improving the practice of, obstetrics and gynæcology within the sphere of its influence.

It would ill become me to seek to address you on any subject the proper treatment of which implies experience of hospital practice; but there are problems of obstetrics and gynæcology, and aspects of obstetrical and gynæcological work with regard to which a general practitioner may claim a hearing even in a company of experts. It is the family physician who is in touch with, and in the confidence of, those whose state of health may only be elicited by casual enquiry. He sees the beginning of things which only later come to the notice of the consultant and hospital surgeon. He is often personally acquainted with the whole medical history of his patients, and his knowledge of the individual may be augmented by a knowledge of the family through several generations and numerous collaterals. The best of his acquisitions, however, are in the form of impressions which have taken shape slowly, and often subconsciously, in the course of long experience. These may be difficult of precise statement, and still more difficult may be the proof of their validity. Nevertheless, they have a value for science when subjected to the test of other men's experience.

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[1] Presidential Address to the Glasgow Obstetrical and Gynæcological Society, 23rd October, 1912.

I propose, therefore, to submit to your scrutiny some impressions of mine relating to the physiology and pathology of early pregnancy, along with evidence which appears to me to give them some degree of plausibility. The evidence you may reject as being inadequate for its purpose: nevertheless, I beg leave to hold by my impressions. This attitude of mind I would explain and excuse by means of an anecdote. Somewhere on the frontiers of the Empire a man was appointed to a judgeship. He had had no technical training, but he was the only person available for the post. From the official who made the appointment he received this advice:—"Never give reasons for your judgments. Your judgments are likely to be right: your reasons are sure to be wrong." I cannot escape giving reasons for the faith that is in me, but if I could I should not seek to do so merely from the fear of their being wrong.

It is common knowledge among us that for most women child-bearing ceases years before the cessation of menstruation. Only very occasionally is it continued up to the establishment of the menopause. It is common knowledge, also, that for some there are long intervals between the births of their children, during which intervals the usual standard of health is maintained, and, so far as we can know, there is nothing to prevent conception.

It appears, then, that notwithstanding normal menstruation, and after absolute sterility has been disproved by pregnancy, there may yet be incapacity for child-bearing. What is the nature of this incapacity; is it pathological or physiological?

We cannot avoid the conclusion that it is pathological if we hold to the view that menstruation is proof of ovulation, and that ovulation means the forthcoming of an ovum which is capable of development, and which can only fail to develop by reason of some impediment to fertilisation. Cases there are in which the cure of some morbid condition results in the cure of a concomitant sterility. In such cases, of course, the sterility is properly denominated pathological. But the question is not whether there are particular instances of pathological sterility: the question is whether the periods of sterility and lessened fertility which occur generally among women are of this character. The fact of their being common and general is against their being so, and points rather to their being of physiological origin. If they are physiological, then we must revise our notions with respect to the relationship which we have believed to subsist between menstruation and ovulation, and with respect to the function of ovulation itself.

Ovulation may go on in the absence of menstruation, as witness the occurrence of conception during the amenorrhœa of lactation. It is, therefore, not dependent on menstruation. That is readily admitted: but the converse of this—that menstruation is dependent on ovulation, that its appearance is evidence of ovulation—can this proposition be as easily accepted? True it is that menstruation is abolished when the ovaries are excised. That effect, however, need not be due to the abolition of ovulation: it may be the consequence of the cessation of other and independent activities of the genital glands. The possibility of this makes the evidence of oöphorectomy inconclusive with regard to the relationship between the two functions.

Equally indecisive are most of the findings of the *post-mortem* room and operating theatre. A menstruating uterus may be found associated with a newly ruptured follicle in the ovary: but the association is perhaps not so frequent as has been supposed, for the condition of the follicles, it seems, may very easily be misinterpreted. Between a follicle which has lately ruptured, one which is nearly ripe, and one which is degenerating, the distinction, it is said, is not easy to make, and even experienced observers may be misled when relying on the unaided eye alone. At the best, too, opportunities for making such observations on the human subject are infrequent. On that account evidence bearing on the question derived from the lower mammals has been given more weight than may rightly belong to it.

Œstrus, or "rut," in animals is homologous with human menstruation inasmuch as the uterus undergoes similar changes in the one and in the other: and because of their being homologous it has been thought that they might resemble each other in other ways. Œstrus is accompanied by ovulation, and so long as it appeared to be always so accompanied the inference that menstruation is likewise accompanied by the shedding of ova was not unreasonable. It has been found, however, that in some mammals œstrus and ovulation occur at different times. In bats the mature females experience œstrus in the autumn, but ovulation does not take place till later: it may be not until the following spring, the semen being stored in the uterus during hibernation. In some monkeys there is this much agreement with the human species that they menstruate regularly throughout the year, but it is probable—almost certain, indeed—that the ova ripen and are shed only during a brief sexual season. There is thus less uniformity in the reproductive function among the lower mammals than was supposed, and the argument by analogy may be used as well against as for the regular coincidence of menstruation and ovulation.

The question of the time relationship between the two functions in the human subject was investigated by Leopold, collaborating with Miranoff, and publishing the results in 1894; and again working with Ravano, and publishing in 1907.[1] In the first research there were subjected to examination 215 pairs of ovaries removed in operations undertaken for the treatment of diseases, such as myomata, by which the ovaries were not themselves affected. Of these, 42 cases were selected as being free from objection, and it was found that in 12 out of the 42 menstruation had occurred without ovulation. In the second research, out of over 300 ovaries 24 cases were selected as unobjectionable, and in 2 of these there had been no ovulation at the menstrual period preceding the operation.

In a question of this kind the negative is more easy of proof than the affirmative, and doubt has been raised as to whether the investigators did not assume a greater frequency in the coincidence of the two events than the facts warranted. However that may be, the results as they are given are sufficient to make untenable the old notion that menstruation implies ovulation, and the way is laid open for some other view which will make it less difficult to account for some of the phenomena of child-bearing that come under our notice in

[1] Leopold, Miranoff, and Ravano, *Arch. für Gynækologie*, 1894 and 1907.

practice. These phenomena, it seems to me, postulate a variability at different times in the production of ova capable of development; and this requirement is fairly well met by one of the conclusions arrived at by the investigators before mentioned, that is to say, that ovulation follows sometimes a periodic cycle of its own; sometimes it occurs *per saltum* (sprungweise); usually, however, its periodicity agrees with that of menstruation. To this I would add that the due occurrence of ovulation gives no assurance that the ovum shed is capable of development.

Let us look now at some of the facts that indicate variableness in fertility.

If a large series of births be plotted out according to the age of the mothers, a curve is obtained which represents the rise and fall of fertility within the limits of the child-bearing period. The diagram I show you is from the second volume of the *Transactions of the Obstetrical Society of London*, and presents such a curve constructed from 16,258 births attended in the service of two London institutions. Beginning with puberty, the curve rises rapidly, to reach its maximum height between the twenty-ninth and thirtieth years of age, and then falls rapidly to the base line at the menopause. The great advantage of the thirtieth year over other years in point of fertility is very striking, and the curve, with its secondary undulations, indicates that while the possibility of pregnancy may be constant throughout the natural term of reproductive life, the probability of it—the chance of conception—varies with the age.

From statistics of this kind figures might be deduced that would express the relative fertility-value of the different years of age. But if the figures were drawn from a particular class of the population, they would apply only to women of the same class living in similar circumstances. A different social status would yield a different set of figures, for age is not the only influence that modifies fertility. It is modified, also, for a particular age and condition of life, according as there has or has not been previous pregnancy. For example, if a woman has borne a child in her early twenties, and after, say, ten years of widowhood, marries again at 35, her chances of issue, I believe, are greater *ceteris paribus* than those of a virgin marrying at the same age. This, I admit, is merely an impression of mine, but I put some reliance on it, and all the more because I had formed it before I was aware that something of the kind is observed among the domesticated animals.

Stockbreeders are accustomed to refrain from mating animals which have only just arrived at maturity. They allow several sexual seasons to pass before permitting pregnancy, in order that growth may be quite completed, but they are well aware that if in so doing they overstep a very narrow limit, prolonged or permanent sterility is apt to ensue. If a longer postponement of regular breeding is desired, then it is the practice of some to permit an early pregnancy, and that with the express purpose of preserving fertility for later utilisation. This practice has been put to the test of experiment by Heape, of Cambridge.[1] Working on rabbits, Heape found that when several œstral periods were caused to pass without pregnancy, the does became sterile for one or more seasons thereafter, and in the ovaries of these animals it was found that the ripened Graffian follicles had degenerated, and had involved in the retrogressive process many of the younger follicles. Dubreuil and Regaud likewise remark upon the occurrence of sterility under such circumstances.[2] There is, however, a speciality in the ovulation of rabbits that makes these results less valuable than would be the like results from some other animals. Still, such as they are, they are in agreement with the experience of practical breeders.

It seems tolerably clear, then, with respect to the lower mammals, and is highly probable with respect to man, that the reproductive function tends to earlier and more rapid disappearance when it has not become active at the appropriate time. If this be so, as I believe it is, a raising of the age of marriage involves more than the shortening by a few years of the reproductive life. This is a consideration which has not received the attention it deserves from those who have exercised their minds on the problem of the falling birth-rate.

My acquaintance with the literature of social science is very limited, but it is sufficient to enable me to appreciate the very great complexity of the problem of population, and to realise that it presents itself differently in different localities. That some writers should give prominence to the artificial limitation of families as a factor in the decrease of the birth-rate is only what one would expect: but when some would have it that this is the all-important factor everywhere one must demur to accepting that contention. Howard Kelly, treating of sterility in his *Medical Gynæcology*, says, "Such a condition as congenital, unavoidable sterility in either sex is rare; a vast amount of that decadence which constitutes a national problem is of the avoidable kind, and such sterility is almost without exception volitional." It may be so for some nations, but I put it to you as to those in the best position to know: Does it accord with your information and observation to say that the birth-rate in Glasgow has fallen from 35 per 1,000 of the population in 1891 to barely 28 at the present day solely or mainly because of volitional sterility? I think you will answer that question with an emphatic negative.

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[1] Heape, *Proceedings of the Royal Society*, B. 76, 1905.

[2] Dubreuil and Regaud, *Comptes Rendus de la Société de Biologie*, Séance du 23 Janvier, 1909.

The falling birth-rate affects mainly the nations that are mainly industrial, and it has been coincident with changes in industrial methods and with educational developments. Work which thirty or forty years ago was done by men who had had an all-round training in their handicrafts has been subdivided and allocated to those who are trained to limited specialities or to those who are merely attendants on machine tools. These men are casual labourers in so far as they have reached their maximum earning capacity as soon as they have attained to manhood. At that age marriage is as feasible for them as it ever will be, and they marry early. Out of 1,123 workmen in the city of York whose social condition formed the subject of a statistical enquiry, one-third of the casual labourers had married before the age of 23 as against one-fifth of the skilled workers who had likewise married before that age.[1] It is notorious that in this class the birth-rate shows no diminution.

Side by side with the tendency to the increase of casual labour there has been a more pronounced movement in the direction of making later the age at which technical training is begun and completed among skilled workers, the commercial, and the professional classes. Whereas forty years ago the usual age for beginning apprenticeship was about 14, it is now about 17: and still more does the lengthening of the educational curriculum affect the educated. For these people marriage is later than for the lower ranks of labour. For a large proportion of them it falls within the period of reproductive life that is less prolific in itself and that is rendered more so, as I maintain, by the comparative lateness of the marriage. It is in this class of the community that lowness of the birth-rate is most conspicuous; but it is neither science nor justice to see in that fact only an evidence of low morality.

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[1] Rowntree, *Poverty, a Study of Town Life.*

It is relevant to this part of my subject to refer to what is known as "single child sterility." The term explains itself, and the condition seems to be regarded as equally easy of explanation. Some would have it that it is voluntary; others ascribe it to morbidity arising out of an unfavourable parturition. In particular instances the one or the other explanation may apply; but neither is of general application. As to its being due to morbidity, I would point out that the condition is not a class characteristic of the very poor, who live in the midst of unhygienic surroundings, but is more often observed among those who have regard to cleanliness and who can command moderate obstetric skill—the class in which absolute sterility is also most prevalent. To my mind it represents a degree of sterility that is due to physiological causes.

I have pointed out the fact, one which is recognised without the help of statistics, that fertility is modified by age; I have suggested that for the later years of age it is modified also according as there has or has not been previous pregnancy; I wish to consider now whether it is modified by the state of nutrition of the body generally.

Within two years of birth there have appeared all the germ cells, out of which will be formed the succeeding generation. These are estimated to number 70,000 in the female infant. Only a very few out of this multitude can under the most favourable circumstances fulfil their destiny. Even before birth some of the primordial follicles with their contained ova begin to atrophy, and the successive degeneration of others continues throughout the active existence of the glands. Beginning as early as the retrogressive process, and continuing alongside it, there goes on development of other follicles: but it is not until puberty arrives that these with their contained ova undergo the terminal changes that fit the latter for fertilisation. During the course of this development the ovum cell increases in size by slow degrees, and there become deposited in the cytoplasm the minute particles that form the yolk substance. The growth of the cell and the accumulation of the yolk depend on the assimilation of material supplied from without, and it is to be presumed that a deficiency in the supply will result in a retardation of the ripening of the cells, so that in a given time fewer of them will reach maturity, and there will be a consequent lessening of the chances of conception. Are there any other than theoretical considerations leading to the conclusion that fertility is influenced by general alimentation?

Breeders act on the assumption, which is based no doubt on experience, that feeding affects the fecundity of animals, male and female alike. Some maintain that efficient feeding increases the number of twins in sheep, an opinion not so absurd as it seems at first sight, if plural conception is the normal standard of gestation for this species, as it appears to be. On this principle animals in poor condition are specially fed in anticipation of the breeding season, not only with a view to the requirements of pregnancy, but in order also to ensure a better chance of conception. At the same time overfeeding is considered to be even more detrimental to fertility than a low state of nutrition, so that animals which are in show condition are put on a reducing regimen before they are bred from. In all cases a state of physical efficiency which is the mean between over- and under-nutrition is regarded as the ideal to be arrived at.

Whether the state of nutrition of the body generally has any effect on human fertility, it is difficult to know, the evidence we gather in practice being so conflicting. What makes the question specially difficult is that it is not one simply of quantity of nutriment, nor even of quality; another factor dominates the situation, one which we have no means of estimating, namely, the selective affinity of the reproductive cells. The power of dealing in special ways with the common supply of nourishment is a property of all cells, but it attains to peculiar development in the reproductive element. The ova cells have an individuality such as we do not see in the components of an epithelial layer, for instance. Of two adjacent germ cells, one may be ripening normally while the other is degenerating, although both are within the same general environment. One frequently sees the fœtus enfeebled and ill-grown in states of defective nutrition of the mother; but one sees it also growing to inordinate size and vigour when the mother is wasting to the danger of her life.

It may be that a greater specialisation in the human reproductive cells puts them more out of line with the other cells of the body in respect to common nutrition than are the reproductive cells of the lower mammals, so that while regulated alimentation might be successful in improving fertility in the domesticated animals, we cannot infer that it would be so in man. Still one gets the impression that mode of life does modify fertility; that, in particular, ill-regulated nutrition with deficient physical exercise and mental unrest is detrimental to it.

A notable peculiarity of the reproductive function is the manner of its passing away. We do not observe a progressive deterioration of the ova. The latest born in a large family is not markedly inferior in vigour to the earlier born. Child-bearing, as a rule, does not come to a close with the birth of feeble, premature, ill-grown, or ill-developed infants; nor do we, especially at this time, meet with evidence of the fertilisation of ova which are able only to initiate the changes of pregnancy and then disappear. The latest ovum capable of fertilisation is completely capable of normal development. The function thus appears to become exhausted quite abruptly. But, consistently with the facts observed, the exhaustion of the process, although apparently abrupt, may in reality be gradual, only it is expressed in a particular way, namely, in a lessening of the chances of conception until these vanish altogether.

To sum up the argument to this point. We have to account for the usual cessation of child-bearing while the ovaries are still functionating: for the occurrence of long intervals between births in healthy individuals under physiological conditions: for the limitation of many families to few children under the same conditions; and for a variableness in fertility, according to age and other circumstances. We have to do this under the condition that there is no third alternative between an ovum capable of development and one that is not so. Now, I see no natural solution of the problem if we are bound to assume that fully ripened and healthy ova are shed with the like periodicity as that of menstruation. But if we assume that normal ova may make their appearance at irregular intervals, and may entirely cease to appear at any time between puberty and the menopause, that consequently the chances of conception vary from time to time, then the phenomena of child-bearing are such as would arise from a function operating in that way. On grounds of clinical observation I believe this occasional production of ova to be a characteristic of the function: and I believe that between puberty and the menopause, what is truly physiological sterility may appear temporarily or set in permanently.

The ovarian ovum, having completed its growth, passes through changes which include the extrusion of the polar bodies, and which are comprehended under the term maturation. Maturation is the expression of the completed growth, the arrival at a stage in the life of the cell in which more is involved than the attainment of a prescribed size. Whether this stage is reached in the human subject while the cell is still within the follicle, as it is in some animals, or after its escape, as in others, has not been ascertained. In any case, after maturation the cell has lost its power of assimilating nutriment, and can recover this power only by being fertilised. It is able to live only for a limited time with a progressively lessening vitality. The first response which it makes to stimulation by a sperm cell is to raise a wall of resistance to the entrance of other spermatozoa. This response is more sluggish as the vitality of the cell becomes less with lapse of time, and more than one spermatozoön may then effect an entrance. Polyspermy so arising in a weakened ovum leads to abnormal segmentation and to a disordered development that comes speedily to an end. And the same failure in development may result when not the germ cell but the sperm cell has been reduced in vitality. Dubreuil and Regaud, experimenting with rabbits, find that the spermatozoa, when acted on by the *x*-rays, remain motile, but the power to fertilise is in many of them lost or diminished. Many of the ova fertilised by such altered spermatozoa do not become imbedded, while of those which do become imbedded many fail to develop; the embryo disappearing though the envelopes continue to advance to a limited extent before being aborted.[1]

The fertilised ovum is within the maternal body, but is not of it. Nevertheless, it wields an influence such as is not exercised by an inert substance in the same situation. From it there proceeds a stimulus, probably chemical in kind, which activates the ovaries, so that they in turn bring about those changes in the uterus that fit it for the imbedding and further nutrition of the ovum. In a fertilised ovum, the vitality of which is so impaired that only a brief and partial development ensues, it may be presumed that the stimulus to uterine activity will be correspondingly feeble and temporary, so that the pregnancy is imperfectly initiated amd soon terminated. How often do we learn, on enquiring into the menstrual history of patients, that the menses at some time or another were delayed for a week or so, and then were excessive! In many such cases there is no question of pregnancy, but in many others we entertain the suspicion, if not the conviction, that they are instances of pregnancy and early abortion. Nor does it militate against the truth of this impression that there is no material evidence in the shape of a decidual cast, for, if the case is concerned with an enfeebled ovum, it is likely that the uterine mucosa has developed but little beyond the normal menstrual state.

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[1] Dubreuil and Regaud, *loc. cit.*, 1908. Tome I, p. 1014.

It appears, then, that any lengthened delay in the actual conjugation of germ or sperm cells, or anything else which lessens the effectiveness of one of the elements, renders fertilisation, when it does occur, futile, inasmuch as the impulse to development is insufficient to carry it beyond the very early stages. Sterility, which is amenable to the treatment ordinarily adopted, must rest on some such condition as this: for obviously, sterility, the cause of which is in operation antecedent to ovulation, is beyond such measures as curetting or dilatation of the cervix. The guiding principles of any treatment directed against sterility in the female must be the opening up of partially occluded passages, the rectifying of those that are unduly tortuous, and the restoring of secretions to the normal. Curettage, which is sometimes successful in curing sterility, is probably effective on these principles, and not because it cures a problematical endometritis. Endometritis, so far at least as hypertrophy of the mucous membrane is concerned, is no barrier to conception, though it may lead to abortion. But endometritis, or rather endocervicitis, associated with altered reaction of the secretions, is a cause of remediable sterility, since the spermatozoa are very sensitive to chemical influences, a slight acidity of the medium abolishing their motility.

An incident of obstetric practice very familiar to the family physician is abortion between the fifth and the ninth weeks. This is the time, in my experience, at which premature termination of pregnancy is most apt to take place, and, according to my experience also, in the great majority of abortions at this time the decidual sac contains no embryo. Characterised by recent, massive, and more or less isolated hæmorrhages, these sacs are lined by the embryonic membranes filled with fluid, the difference between them and the blood moles of later date being one of degree, and such as would arise through the longer retention of the latter in the uterus. Rarely an embryo is found, small out of all proportion to the size of the containing cavity. It is now nearly twenty years since I obtained my first specimen, and since then I have been keenly on the lookout for others. In all, I have collected six, two of them having been given to me by friends, and all of them I have in serial sections.[1]

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[1] Lindsay, "Abortion with Dwarf Embryos," *Journal of Obstetrics and Gynæcology of the British Empire*, April, 1912.

An outstanding feature of their histology is necrobiosis, which in some has reached the point of total disintegration of parts of the tissues; and to complete dissolution by the same process I would ascribe the lack of an embryo in some abortion sacs and in the blood moles. Possibly all these represent various more advanced stages in the development of ova, which, on account of lowered vitality in the germ or sperm cell, have not been efficiently fertilised. The earlier stages would then be represented by those ova which altogether fail to become imbedded. I suspect, however, that malnutrition subsequent to fertilisation plays a part, if not the chief part, in the causation. The non-development of blood channels in the embryos, and the failure of the chorionic villi to become vascularised, may be due to original defect in the ovum. Yet this failure in development would not account for the necrobiosis, for the bulk of the embryos —three of my specimens are under 3 mm. in length—is not such as to put them beyond the possibility of nutrition by imbibation. A mass of cells of this bulk, if bathed in a wholesome nutrient fluid, should be able to maintain healthy life, always provided the selective affinity of the individual cells is up to standard. If, however, the nutrient fluid is just to a slight degree unsuitable, the cells, however sound to begin with, will suffer in their nutrition and succumb slowly, as they have done in my specimens. That the nutrient fluids on which the ovum depends should at times be deleterious is highly probable. The chemical constitution of the blood in pregnancy and menstruation, being naturally to some extent abnormal, may become grossly so, and this may check development in its early stages. At all events, in cases of early abortion, when the embryo is absent or dwarfed, indications of blood disorder in the patient should be looked for.

I have touched on some points that have a bearing on human fertility as this is affected by the physiology and pathology of the ovum. I have dealt with these in a very discursive fashion, because it has seemed to me to be appropriate to an address of this kind that it should be suggestive of many things rather than exhaustive of some narrow issue. There is still very much that we desire to know with regard to human reproduction. We may learn something from observations and experiments on the lower animals, but the returns from this source must accord with the facts of life. This is the final court of appeal, and the evidence that decides are the facts which can only be collected by medical men in practice. I commend to you, therefore, the study of child-bearing in its biological aspect, and I submit to you some of my own impressions, such as they are.

THE LESIONS OF BILHARZIAL DISEASE.[1]

By PROFESSOR A. R. FERGUSON, M.D., CAIRO.

MR. PRESIDENT, LADIES, AND GENTLEMEN,—I feel that I cannot at once enter upon the subject proper of my lecture without first saying how deeply I feel, and how much I value, the cordiality and warmth of your welcome.

It is impossible for me to dissociate this from the fact that I am privileged to possess, and enriched by the possession of, many and valued friendships amongst the profession in Glasgow: and it is equally impossible for me to enter this room without being reminded of these, both by the actual presence of many, and by the memory of others.

I cannot but feel that the very kind, but I fear exaggerated, terms which you have used in connection with me this evening are dictated by a friendship between us which now exists for a good many years. If I feel that I cannot wholly deserve them, I at least can, and do, sincerely thank you for their expression.

It may seem at first sight that the subject on which I purpose to address you this evening can have but a faint and indirect interest for those engaged in the practice of medicine and surgery in this city. But bilharziosis is a condition so widely spread over those parts of the world from which men "go down to the sea in ships" that it is likely to be carried thence to all the great home-ports terminating their voyages. Nor can it be forgotten that British troops engaged in active service in an infected country such as South Africa, or garrisoned for considerable periods in such a heavily-infected country as Egypt, may and do carry it with them, when moved either homewards or further afield to India.

Amongst the many plagues of Egypt, bilharziosis must be accounted one of the chief. Egypt has well been termed the "home of bilharziosis," partly by reason of its extreme prevalence among the fellaheen, or poorer agricultural peasants of the country, and partly because of its very severe manifestations there, as compared with those of the same disease in other parts of the world.

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[1] Lecture and lantern demonstration delivered before the Medico-Chirurgical Society of Glasgow on 1st November, 1912.

Although this is true, bilharziosis exists also to the west of Egypt throughout Tripoli, Tunis, and Algiers; to the further east throughout Arabia, Syria, Persia, and west coast of India: and southwards in a practically uninterrupted line from Suez to the Cape. It is not so prevalent on the west as the east coast of Africa, and, as might be expected, it extends from the principal east coast ports for considerable distances into the interior. Thus, the Zambesi basin, Uganda, Abyssinia, and the Soudan are all infected.

As I have already hinted, it has been carried since the South African War to many parts of our Empire: and, since the conquest of the Philippines, it is equally true that it is now found in many parts of the United States, whence troops were drafted for the war.

Sir Patrick Manson in his Lane lectures, delivered at San Francisco in 1905, warned the United States as to this possibility, which has now been realised.

I may mention that within the last two days I have received a letter from the Australian Institute of Tropical Medicine asking me for bilharzia material, the writer stating that "no bilharziosis occurs, so far as he is aware, in Australia." But I feel certain that the return of the Australian contingents after the South African war *must* have meant the conveyance of bilharzial disease thither, though probably in a mild form.

It must also be remembered that movements of great bodies of people to and from holy cities and shrines play a very important part in the East in determining the routes of distribution of infective disorders. Amongst these, the enormous pilgrimages to Mecca are the most important, both because of the extreme prevalence of bilharziosis there and because of the great distances from which the devotees come. It is interesting, for example, in this connection to know that there is a sufficient number of Dutch-speaking Moslems in South Africa to maintain a Mohammedan journal devoted to their interest, and not a few of these will make the pilgrimage.

In addition to the wide tracts already mentioned, bilharziosis exists also in certain of the Mediterranean islands, especially Cyprus, and also in Mauritius and the West Indies. In the latter situation it is said to affect only the intestine—a point to which I will refer later.

I may remark here that a very similar form of disease found in the principal ports and along the great waterways of China is caused by a closely-allied parasite belonging to the same group of Schistosomidæ.

History.—Bilharziosis has probably existed amongst the inhabitants of the Nile valley since the earliest times. I base this statement on such facts as the following:—

1. Calculus of the urinary bladder is found amongst mummies of almost every dynasty with such frequency as to suggest the operation of the same local cause of formation as at present, viz., bilharziosis.
2. The remedies known to and practised by the ancient Egyptians for the relief and cure of hæmaturia are so numerous as to suggest that this condition demanded an unusual degree of attention.
3. The existence of calcified bilharzial ova has recently been demonstrated by Dr. Armand Ruffer, of Alexandria, in microscopical preparations made from the kidney of a mummy of one of the later dynasties.

I can entertain little doubt, therefore, that the disease has been endemic throughout the historical period. In fact, it seems more than probable that the severe hæmaturia which so reduced the active strength of Napoleon's forces in Egypt during his three years' meteoric conquest of the country may also have drained the strength of Alexander the Great's armies during their much longer occupation of the country long before.

I venture to hint, but must not allow myself to do more, that Alexander the Great *may*, by the withdrawal of his troops from North Africa to aid in the completion of his Persian conquests, have been the means of carrying the infection into the latter country.

The pursuit of this and similar speculations tempts the imagination, but I must now confine myself to the disease as we know it to-day in Egypt. I have already alluded to its prevalence and severity in this country. The figures of different observers as to the proportion of the population affected vary considerably, and this is inevitable unless a uniform mode of observation is adopted.

Figures based on clinical observations such as the discovery of eggs in excreta are useful as indicating that ova are reaching the surface of hollow viscera such as urinary bladder, colon and rectum, or gall-bladder, but are of comparatively little value as an index of the degree of infection amongst the inhabitants as a whole.

Statistics based on a series of consecutive *post-mortem* examinations, of course, give a higher percentage of infection. Greisinger and Sonsoni thought that between 35 and 40 per cent of the inhabitants of Cairo and surrounding districts were the subjects of bilharziosis. This figure was based on the discovery of the parasite at the autopsy.

It is quite possible, however, for a person to have been the subject of an old bilharzial infection, the parasites originating which have long since died.

It therefore occurred to me that the only reliable basis of information lay in the presence or absence of ova, calcified or recent, within the body. This can be established without much difficulty by slowly digesting selected tissues in a 3-5 per cent solution of caustic potash at a temperature of 60°-80° C. The sedimented matter is afterwards examined with a low-power search microscope.

I have by this means established the fact of infection in no less than 61 per cent of 600 male subjects between the ages of 5 and 65 years which came consecutively for autopsy examination.

I may in passing point out that it is comparatively easy, by this method, to discover ova in many parts of the body in which their presence had not been suspected. Amongst the more important of these, I believe, are the ovary, lungs, and nervous system, brain, and spinal cord.

The fact that I selected male subjects for examination is not to be taken as meaning that the female sex is not also affected. A considerable proportion of young girls are certainly the subjects of bilharziosis, but I have not yet been able to establish the percentage proportion of infection with the same accuracy as for the male sex.

I must now traverse as much of the structure, life-history, and habits of bilharzia hæmatobia as will enable us to understand the manner in which man is infected, as well as the various lesions it is capable of producing.

The parasite belongs to the comparatively small number of trematode, or flat worms, in which the sexes are distinct.

The male is from 10 to 14 mm. in length, and, although in reality flat, has a cylindrical appearance, because it is curved longitudinally on itself so that the two lateral margins are either in close contact or overlap. The male worm, by this infolding of itself, is converted into a small tube, in which the female is lodged during the period of sexual life (Fig. 1).

Its external surface is studded with numerous projecting bosses of minute size, and these doubtless aid in its intravenous movements. The vasa deferentia unite, and open near the posterior sucker, and the female opening is situated near it.

Both sexes are provided with suckers—one, terminal or cephalic, which opens into a short, straight œsophagus; the other, ventral in position, and aiding locomotion by securing a fixed point, towards which the worm contracts.

The female is considerably longer than the male (18 to 20 mm.), and is of thin, hair-like, and cylindrical appearance.

The smallest and youngest worms in the human body are always met with in the portal vein, and as the worms reach sexual maturity they make their way slowly into the main trunk of this vein. Arrived there, coupling of the sexes takes place, and the long journey against the blood-stream is commenced, which only terminates in the minute venous radicles of the posterior vesical plexus and those of the descending colon and rectum. Thus, the inferior mesenteric vein is the chief vascular avenue by which the worms travel to their ultimate destination.

It is probable that this journey to the pelvis occupies several weeks, and that complete sexual maturity is only attained as the smaller branches in which the worms permanently lodge are reached.

During all this time eggs, more or less perfect in form and state of development of contents, are being cast off into the venous stream. These are carried back as passive particles to the liver, where they remain embedded in the tissue, undergoing slow degenerative changes and, ultimately, calcification.

It is, however, in the smaller veins in the depth of the pelvis that real deposition of ova begins, and it is the multitudes of ova deposited in the walls of bladder and rectum which give rise to all the manifestations of the malady.

It, of course, happens, that with a rich primary infection many worms pass into the gastro-epiploic, splenic, and pancreatic veins, as well as along branches of the superior mesenteric. I must say, however, as a matter of fact, bilharzial lesions of the stomach and small intestine are extremely rare.

It would almost appear as if the worms selected the inferior mesenteric vein route, and my colleague, Professor Looss, is inclined to attribute this to some particular peculiarity in the venous blood of this branch which determines it. Sometimes, owing to unusually wide or numerous anastomoses between the inferior mesenteric and middle and inferior hæmorrhoidal veins, the worms pass over from the portal to the systemic system, and I have found them in the inferior vena cava and lung.

It is a noteworthy fact that the female, in the act of depositing her ova, protrudes herself as far as possible along the vein in a distal direction, so that the eggs are deposited some little distance ahead of where the worms are actually lodged. After the deposition of ova the worm retracts herself again within the gynæcophoric canal of the male. Thus, if the coupled worms are lying impacted near a small venous bifurcation, ova may be laid in both branches at different times.

Within a short time the eggs penetrate the vein wall, and pass towards the mucous surface of bladder or rectum as the case may be. They probably possess very limited powers of movement in themselves; their progression towards the surface is to a large extent due to the contractions of the wall of the viscus in which they are situated, aided to a certain extent by the sharp-pointed spine with which they are armed. Expelled with the urine or fæces, the eggs, containing living embryos, can only undergo further development in fresh water. When this is not available they quickly succumb to desiccation and die.

A few minutes in fresh water, however, suffices for the hatching out of the very active ciliated embryo or miracidium. This is a very delicate, yet energetic, little organism, which swims about restlessly like an active paramœcium. The water containing these miracidia is highly infective if brought into contact with the cutaneous or mucous surface.

The movements of the miracidia, however, at first so active, become after a few hours comparatively sluggish, and after a lapse of thirty-six hours cease altogether. Shortly afterwards they are seen to undergo disintegrative changes. So that it may be said, for practical purposes, that an infected volume of water, say a bathing pond, becomes again harmless—if no re-infection is permitted—after a lapse of thirty-six to forty hours if left to itself. It is practically certain that the miracidium enters another individual very shortly after it has hatched out from the egg.

The question now presents itself, "What is the exact mode of infection?" Around this question a good deal of uncertainty prevails, and it is still a matter of controversy. It may be taken as an established fact, in the first place, that in the case of the bilharzia parasite no intermediate host exists: the infection takes place directly from man to man. My friend, Professor Looss, has made the most exhaustive search and experiment to discover an intermediate host, with completely negative result. It may be regarded as equally certain that infection does not take place by way of the gastro-intestinal tract. The miracidia succumb at once to such a dilute solution of hydrochloric acid as 1 in 1,000, and even in a solution of 1 in 2,000 are killed in three minutes. It is thus extremely probable that infection takes place either by the cutaneous or one of the exposed mucous surfaces of the body. The miracidium is such a fragile organism that I think it reasonable to infer that its entrance will be more easily effected through a thin mucous surface than a more resistant cutaneous one.

Both modes of entrance may exist, but, from the manner in which the poorer Moslem carries out his ablutions as a preliminary to his regular daily times of prayer, I am disposed to think that infection takes place generally through the nasal mucous membrane. Experimental observations have been carried out in Cairo by Dr. Day and myself which tend to confirm this. It is, of course, also possible that it may take place at the genitalia.

In any case, the miracidium, after its entrance, soon passes into an encysted phase—the "sporocyst"—and makes its way to the liver, where, as we have already said, the youngest worms are alone met with.

I must at this point again refer to Dr. Looss as my authority in parasitology for the statement that it is practically certain that the sporocysts are of two kinds, male and female.

As a matter of fact, infection with both kinds of sporocysts usually takes place at the same time. It is, of course, theoretically possible—though not practically probable—that infection might occur with either male sporocysts alone, or female sporocysts alone. What probably *does* happen is that, now and again, infections occur in which either male or female sporocysts greatly preponderate. In the former case, in which there is an excess of male worms (and this is much the more common condition) the resulting damage to the

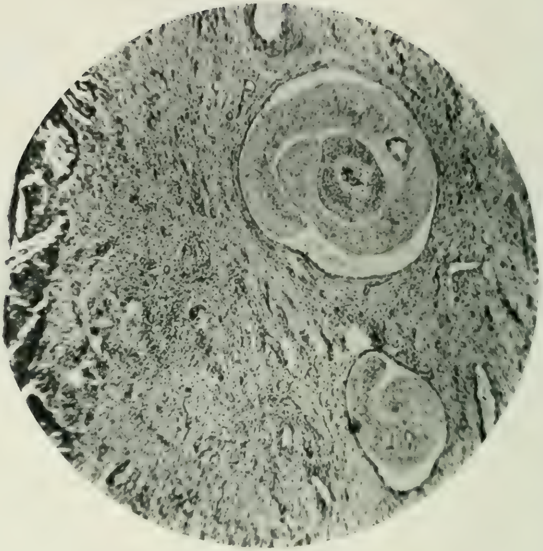

FIG. 1.

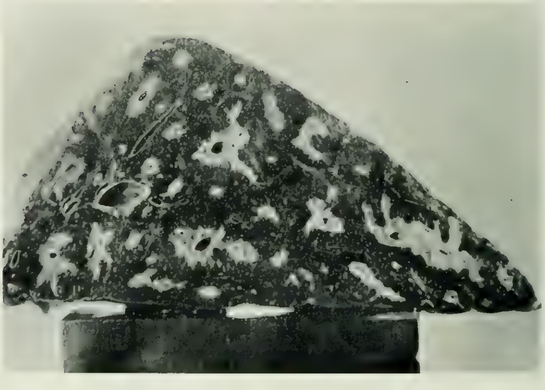

FIG. 2.

tissues is not great, the worms lying in the larger branches of the portal vein tributaries.

It would seem as if the journey to the smaller branches of the inferior mesenteric vein is only undertaken by the sexes in conjunction.

In the latter case, in which female worms predominate, the state of matters is very different. The delicate female worms are unable, by themselves, to make headway against even the slow current of the portal system, and accordingly linger in the liver itself, until perchance, a subsequent infection with male sporocysts allows of sexual conjunction, with resulting migration to the veins of the pelvic viscera.

During this period the female worms are setting free into the portal stream numerous ova of immature character and certainly unfertilised. These are characterised by the obliquely placed lateral spine instead of the terminal.

In such a condition of matters, these eggs ought to be found in large numbers in the portal tracts of the liver. Now, in a small proportion of bilharzial cases (about 2 to 3 per cent) there occurs a peculiar cirrhosis of the liver, the outstanding feature of which is a very marked hyperplasia of the periportal tissue (Fig. 2).

I have examined every one of these which I have encountered by the maceration method already mentioned, and found that, without exception, lateral spined ova greatly preponderate in this tissue.

Now, the explanation which I have elsewhere advanced, both of the occurrence of such a lesion and its comparative rarity, in a bilharzial country is this: That the individuals who show it have been at one time infected with a preponderating number of female sporocysts which have given rise in due time to an excess of female worms. These, as we have seen, are incapable alone of travelling far away from the liver, and during their passive period of waiting deposit large numbers of lateral spined ova in the portal current. These speedily make their way through the walls of the portal radicles, and exert an irritative influence on the Glissonian tissue, resulting in the lesion which you have just seen.

I wish to point out, also, that in these cases particularly a large number of lateral spined ova must, and I know do, get into the bile ducts and gall-bladder, and so into the intestine.

Therefore, the discovery of lateral spined ova in the intestinal contents is not necessarily a proof of the existence of bilharzial disease of the wall of colon or rectum: the source may be, and often is, the liver.

Now, I must not permit myself on this occasion to enter upon matters of controversy. But before passing in review the vesical and intestinal lesions of bilharzia, I wish to point out that another species of parasite has been created by Sambon, in which the presence of a lateral spine on the ovum constitutes an important differentiating character. He states that this species, to which Manson's name is attached (Schistosomum Mansoni), is prevalent in the West Indies, where rectal bilharziosis is by far the more common condition. This species is said to affect the intestine only, lateral spined ova being exclusively found in the rectal wall and its contents in cases from the West Indies. It is further stated that lateral spined ova never occur in the urine. In Egypt, however, one may state positively that lateral spined ova do occur both in the urine and imbedded in the vesical wall; and further, that while lateral spined ova may be found in the fæces, digestion of portions of the rectal wall frequently shows that both types of ovum occur, the terminal spined variety often in greater numbers.

If Sambon's view be correct, viz., that there are two distinct species of this parasite, both species must co-exist in Egypt, and affect both bladder and rectum. Since, according to Looss, it is impossible to establish any constant difference in anatomical structure of the worms themselves, and since, according to Bilharz and himself, lateral spined and terminal spined ova may occur in the oviduct of the same female, the maintenance of a second species becomes difficult, if not impossible.

Professor Ferguson then showed a large number of lantern slides, illustrating the appearances presented by bilharzia hæmatobia and its ova, and the vesical and intestinal lesions of which it is the cause. The demonstration included photographs of the following pathological preparations:—

1. Transverse section of a coupled pair of worms in wall of ureter, showing the female lying in the gynæcophoric canal formed by the male (Fig. 1).
2. Section of liver from case of bilharziosis, showing the peculiar cirrhosis of the organ, characterised by marked hyperplasia of the periportal tissue (Fig. 2).
3. Bladder of boy, aged 14, showing leathery mucosa with septic foci in its recesses, and greatly thickened muscular wall, the seat of fibrosis and beset with ova (Fig. 3).

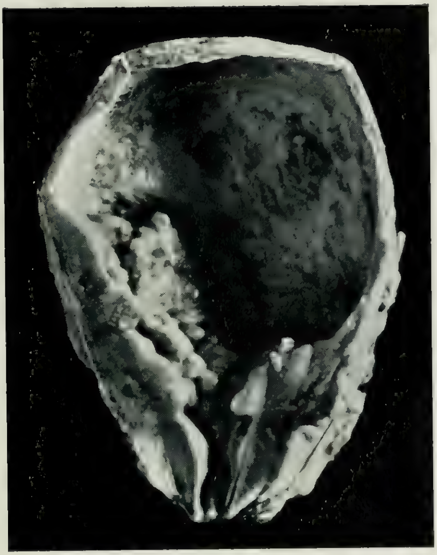

FIG. 3.

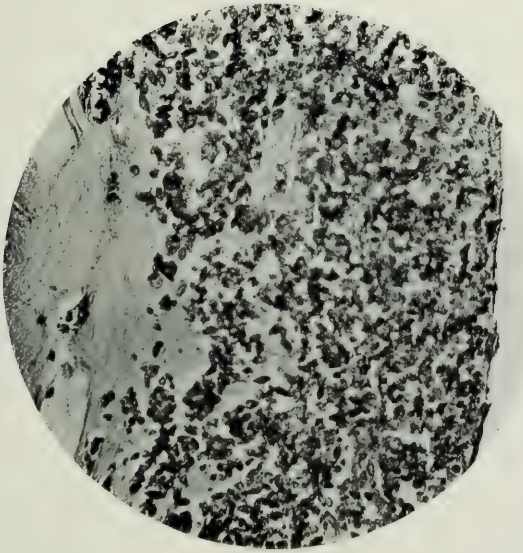

FIG. 4.

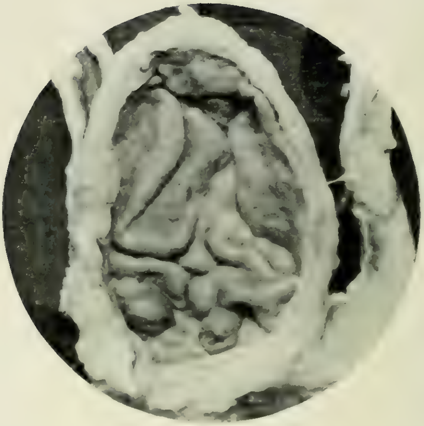

FIG. 5.

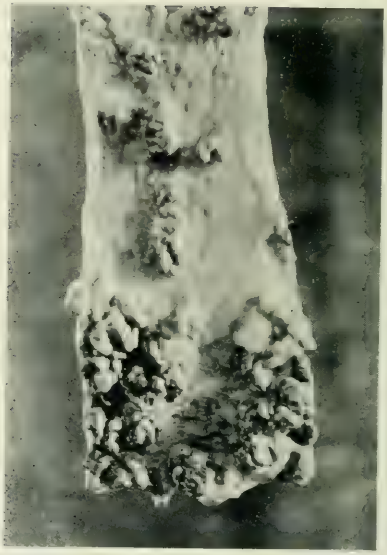

FIG. 6.

4. A series of urinary bladders displaying the lesions of bilharziosis.
5. Section of bladder wall containing enormous numbers of calcified ova (Fig. 4).
6. Interior of bladder showing adeno-papillomata, the result of bilharzial irritation.
7. Nodular form of bilharziosis on the subperitoneal surface of bladder, closely resembling tubercles and sometimes removed as such.
8. Bilharziosis in lower end of ureter, a common seat of the disease, and specially dangerous because of the effect produced on the kidney by partial blocking of ureter, the resulting pyelo-nephritis being rapidly fatal.
9. Bilharzial papillomata over ureteral orifices (Fig. 5).
10. A series of cases of malignant disease of the bladder, the commonest form of malignant disease in Egypt, and doubtless due to the constant irritation from bilharzia over a long period of years.
11. Adeno-papillomata of the colon (Fig. 6). The small intestine is hardly ever, except in its lower part, the seat of bilharziosis. In the colon the disease causes the formation of septic foci and ulceration, with the symptoms of dysentery, and sometimes perforation of the bowel wall.

REPORT OF THREE CASES OF PANCREATITIS, WITH TWO RECOVERIES.[1]

By A. MacLENNAN, M.B., C.M.,
Assistant Surgeon, Western Infirmary, &c.

Pancreatitis, thanks to the pioneer work of Mayo Robson, is now considered a surgical affection. The diagnosis of the condition, sometimes strikingly evident, is unfortunately often obscure.

The cases which I now report illustrate three phases of the disease, and I shall try to present them as three clinical pictures. Each is typical of its class, and it is perhaps unnecessary for me to remind you of the importance of the subject, and that the prognosis greatly depends upon the promptness of the treatment.

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[1] Read at a meeting of the Medico-Chirurgical Society of Glasgow held on 15th November, 1912.

CASE I.—The first case illustrates chronic pancreatitis, which is by far and away the commonest type. Every surgeon operating on stomach or gall-bladder is familiar with fibrosis of the pancreas. In those cases the symptoms are usually referable to the gastroduodenal lesion or to the gall-bladder, and not to the pancreas, the fibrosis of the gland being only found incidentally. I have selected this case from a number I have met with, because I have a section of the diseased gland to show, and because the Cammidge reaction was negative before and after operation.

Mrs. H., æt. 34, was admitted to the Western Infirmary on 18th January, 1911. Eight years previously she had been in one of the medical wards on account of diarrhœa and abdominal pain. A search for some record of the case has been fruitless. Since that time she has had frequent attacks of abdominal pain. No peculiarity of the motions was noticed by the patient during this period. For about one year previous to admission patient suffered many attacks of pain in the right hypochondrium, accompanied by a feeling of intense sickness, but she rarely vomited. These attacks were followed by some degree of jaundice, and by the passage of clay-like motions and bilious urine. On admission the urine contained a trace of albumin. The physical examination of the abdomen was indefinite. The heart and lungs were normal. A diagnosis of gall-stones was made, and on 30th January the abdomen was opened through the right rectus muscle. The gall-bladder contained a few palpable stones and much gall-stone sand: the bladder was excised. Stones were also removed from the cystic duct stump, and from the hepatic and common ducts. During the preliminary examination the fact was elicited that the pancreas was enlarged, and was of stony hardness. Indeed, the first impression given to the finger was that a couple of large stones were blocked in the common duct. It became immediately apparent that the induration felt was pancreatic, and that the whole gland was involved. The small sac of the peritoneum was opened, and the pancreas carefully examined. A small piece of the pancreas was removed for microscopic examination, and the gap left closed with a single cat-gut stitch. The common duct was drained. Under the date 3rd January the Ward Journal has an entry to the effect—"The patient was ill, and looked like dying. Cyanosis was marked, the pulse was rapid and poor, the respirations were sighing." After this gradual improvement took place, and the patient left the hospital on 23rd February, 1911, well.

On 2nd November of this year I saw the patient again and examined her. Six weeks previously she had given birth to a healthy child; during the latter part of the pregnancy there had been some pain at the upper angle of the wound, but there was now no complaint, and she was looking the picture of health, having a splendid complexion.

The history of this case pointed to the gall-bladder being implicated, but the excessive feeling of prostration without commensurate vomiting indicated a pancreatitis. The fact of the motions being clay-coloured without pronounced jaundice further indicated involvement of the pancreas.

This case showed a gradual and progressive disease of the pancreas, the intermittent nature of whose symptoms were due to the gall-stones producing little exacerbations of the inflammatory trouble. The prostration after the operation and the cyanosis indicated a more acute attack of inflammation superimposed upon the chronic condition. With removal of the cause the pancreas has evidently been able to recover without interruption. In these cases the irritation caused by the gall-stones is transmitted to the pancreas *via* the lymphatics and not by the ducts. The report on the specimen, signed by Dr. J. Shaw Dunn, was to the effect that the gland showed "very marked perilobular interstitial acinus fibrosis. The gland elements were undergoing atrophic change."

Case II.—The second case illustrates one of subacute pancreatitis which occurred in a man of 59 years, who was seen by me in consultation with Dr. Muir Kelly on 8th September last. The history kindly sent me by Dr. Kelly is as follows:—

"For years has taken alcohol, but not to great excess —never drunk. Was very careless about diet, taking too much tea, and often no dinner. Complained during the last eighteen months of recurring attacks of pain in the stomach with vomiting and accompanied by constipation. He would have about six such attacks, each lasting three to four days. I (Dr. Kelly) was called to see him on 7th September, 1912, when he complained that for two days before he had been unable to get his bowels to move. He then had pain and tenderness in the epigastrium with vomiting (the vomited matter was not bilious, but simply returned food, and was thought due to purgatives taken).

The abdomen was distended, pulse 100, temperature normal. He then had from me various purgatives and glycerine enema, but the only result was to clear out the rectum. Next day the pain increased and the patient became weaker, and still no movement of the bowels."

When seen on the 8th his condition was as follows:—He looked ill and sunken eyed. The conjunctivæ were yellowish, but it was impossible to call him jaundiced in the gas light. The tongue was furred and dry. The abdomen was well provided with fat and was tympanitic. There was no sign of any tumour. Tenderness was present over the epigastrium, and the pain complained of was principally over the left hypochondrium. In going over the diagnosis of the case with Dr. Kelly a carcinoma of the splenic flexure was considered to be probable. On account of his habits, his flatulence, and the long duration of his intermittent illness, gall-stones were considered to be present; the possibility of pancreatitis was remarked upon. As it was quite evident that operation would be called for shortly, his removal to the Western Infirmary was arranged. Next morning I opened the abdomen in the middle line above the umbilicus. The large intestine was enormously distended, and to add to the technical difficulties the patient took the anæsthetic badly, requiring artificial respiration on two occasions, and very frequently straining with consequent trouble with the distended intestines. Fat necrosis was present in the omenta and mesentery, and the gall-bladder was found curled upon itself with the end fixed towards the cystic duct. On tracing the colon downwards no tumour was found, but the sigmoid was observed to be collapsed. At the splenic flexure adhesions made an acute kink; these were freed under great difficulties. The stomach was normal, so also was the appendix. The gall-bladder was freed from its adhesions, but on account of the general condition of the patient could not be excised. It was opened, and after the expenditure of considerable time and patience the last stone was removed from the common duct. Practically the entire procedure had to be done by sense of touch. The small sac of the peritoneum was opened to permit examination of the pancreas, but a sight of it could hardly be got; the small piece of pancreas removed for examination was found to be composed entirely of fat. The gall-bladder was drained, and the diseased region, including the small sac, was packed with gauze. The large wound was then closed in layers. Satisfactory progress was made though the patient was very troublesome to nurse. Ten days after the operation the tube and the packing were removed, the stitches being left. Two days later the patient complained of abdominal pain. Next day the lower part of the wound was found to have given way, the superficial stitches of silkworm gut having cut through, with the resulting escape of intestine. Peritonitis developed, and the patient died two days later. In the interval the bowels had moved well, and the examination of the fæces showed that the pancreas was functionating perfectly. Had it not been for this very unfortunate circumstance of the bowel escaping, recovery seemed assured. Only a few ounces drained from the gall-bladder, and the patient vomited considerable quantities of bile-stained fluid during the first few days. Both these cases were attended in the wards of Dr. Nicoll, and I am indebted to him for permission to report them.

Case III.—This was a case of acute gangrenous pancreatitis. Mrs. W., æt. 59 years, was seen at the M'Alpin Home on 26th August, 1912, in consultation with Drs. Mechan and White. The patient was stout and of a sallow complexion. No jaundice was noticeable under the electric light. The tongue was dry and slightly coated with a brown fur. The pulse was small—100 per minute; the temperature was 100° F. The urine did not contain either albumen or sugar. The abdomen was enormously distended with flatulence, but was neither tense nor tender; indeed, palpation was rather comforting than otherwise. During the examination there were frequent retchings and eructations. On deep pressure there was tenderness over the gall-bladder region, though the pain complained of was principally in the left hypochondrium. There was some resistance to pressure over the epigastrium, and this when the patient was under chloroform was pronounced enough to be designated a tumour. The history of the illness was as follows:—

Abdominal distension with epigastric tenderness had been present for years. Constipation had been marked, and bleeding had occurred from piles. Fourteen days before admission to the home patient had had a sudden attack of colic, accompanied by bilious vomiting and shivering. This passed off gradually. Eleven days later the pain returned and was accompanied by giddiness and shivering. A hypodermic injection of morphia relieved the symptoms. She was obviously cyanosed and collapsed. Flatulence was pronounced. There had been no special pain relative to the ingestion of food. Drs. Mechan and White could better describe her condition at that time. The history and the physical signs made it absolutely clear to me that in this case we were dealing with an instance of acute pancreatitis with cholecystitis. At the same time there was, of course, the possibility of a chronic obstruction in the colon, though the whole picture was typical of acute pancreatitis.

The following points make the diagnosis of gall-stones justifiable: (1) the general appearance of the patient; (2) the history of attacks of vomiting with pain and shivering; (3) the presence of flatulent dyspepsia; (4) the relief to the symptoms by the administration of morphia. The acute pancreatitis was indicated by: (1) the collapse; (2) the cyanosis; (3) the smallness of the pulse; (4) the great distension of the intestines; (5) the incessant retchings and eructations; (6) the presence of the pain in the left hypochondrium; (7) the presence of a tumour.

Preparations for operation were proceeded with, and, assisted by Dr. J. Campbell Mackie, I opened the abdomen by the Kehr incision. The diagnosis was completely verified. The distension of the intestines rendered the various manipulations somewhat difficult, but there was no trouble with the anæsthetic, which was administered by Dr. Greenlees. Fat necrosis was present. The gall-bladder was thickened, adherent, and somewhat shrivelled. Its wall was partly necrotic. The stomach showed the presence of an elongated scar near the pylorus, but there was no pyloric obstruction. The appendix was normal. The gall-bladder was excised and a tube passed well up the hepatic duct. The increased resistance and tumour felt in the epigastrium was then found to be due to the greatly swollen pancreas. On opening the small sac of the peritoneum the gland looked like a large livid steak with necrotic patches. This involvement of the gland extended to the tip. The pancreas was punctured with forceps in numerous places; the bleeding was fairly profuse. The entire small sac was packed with gauze. The pedicle of the gall-bladder and the tube were surrounded by gauze. The abdomen was closed in layers. The operation did not take up much time, and the patient really never gave any further anxiety. The packing was left in for six days and the stitches were removed on the tenth day. During this procedure the abdominal wound began to gape as if an invisible plough were furrowing down the wound. I instantly grabbed the edges and inserted a few sutures, taking a wide bite.

Both this and Case II showed the tendency for delay to be present in the union. The presence of packing in the abdomen for so long a time had become objectionable to the patient on account of the odour, but by frequent dressing and the lavish use of methylated spirit, followed by a plentiful supply of boric acid powder, the putrescence of the discharge was kept under. Very little bile drained through the tube—from 1 to 12 oz. in the twenty-four hours. When the tube was removed, much more apparently came away through the wound. It was fully ten days later before the motions, which had been white since the operation, became bile tinged. The pancreas, from the examination of the fæces, was found to be practically non-functionating. Pancreatic extract was given, with the effect, according to the patient, of marked reduction in the meteorism. This point is of importance, on account of the well-known fact that with pancreatitis there is usually great flatulent distension. Further, in cases of bilious regurgitation after gastro-enterostomy, the downward passage of an accumulation of bile and pancreatic excretion may be coincident with the emptying of the colon of gas or an attack of diarrhœa. This would imply that the pancreatic secretion induces peristalsis. Sickness and vomiting troubled the patient a good deal, but gradually convalescence was established, and the patient left the Home on 5th October. Since then I understand she has continued to progress.

These cases show the fact that during drainage of the gall-bladder or the hepatic duct the flow of bile has been a negligible quantity. The beneficial effects of such drainage cannot therefore be connected with the diversion of the bile from its normal course. The presence of fat necrosis is an obscure condition; but one thing it does imply, and that is slow healing. In the future I intend to pass wide through and through sutures, which will be left in for three weeks. The advantage of cholecystectomy over cholecystotomy is the saving of time and the greater assurance that both hepatic and common ducts are free from stones.

In dealing with pancreatitis, the pity is that so many of the subjects of this disease are done lives; but when surgical measures end in the saving of life, the results are all the more satisfactory.

Specimens of the stones and gall-bladders removed, with temperature charts, were shown.

Obituary.

JAMES FARQUHARSON, M.D. ABERD., F.R.F.P.S.G.,
COATBRIDGE (RETIRED).

BY his death, on 19th November, there passed away a well-known practitioner in the person of Dr. James Farquharson, of Coatbridge, formerly Medical Officer of Health for the Burgh. Deceased had, owing to impaired health, retired some time ago from active practice as well as from his public duties.

Dr. Farquharson studied medicine in Edinburgh and Aberdeen, graduating M.D. in the latter University in 1865, and in the same year he obtained the L.M. of Edinburgh. In 1867 he graduated Master in Surgery at Aberdeen, and ten years later he became a Fellow of the Royal Faculty of Physicians and Surgeons of Glasgow.

He had for many years been settled in Coatbridge, where he carried on an extensive practice. He was surgeon to the Gartsherrie Ironworks, Coatbank Engine Works, &c., and, as already mentioned, was Medical Officer of Health for the Burgh of Coatbridge.

About a year ago Dr. Farquharson was predeceased by his wife.

ANDREW STEWART LANG, M.B., CH.B. GLASG.,
PAISLEY.

WE regret to have to announce the death, in his thirty-seventh year, of Dr. A. S. Lang, which took place at his residence in Paisley on 18th November.

Dr. Lang studied medicine at the University of Glasgow, graduating M.B., Ch.B., in 1899. Subsequent to graduation he held various appointments, having been House Physician to the Greenock Hospital and Infirmary, Assistant Medical Officer, North Hospital and Long Reach Small-pox Hospital. and Assistant Medical Officer to the North-West Fever Hospital, London.

ALLAN DIXON MITCHELL, M.B., Ch.B. Glasg.,
Dalmuir.

We regret to have also to announce the death, which took place in Clydebank on 21st November, of Dr. A. D. Mitchell. Deceased studied medicine at the University of Glasgow, and graduated M.B., Ch.B., in 1902.

JAMES WALLS WHITE, M.D. Glasg.,
Uddingston.

On Saturday, 23rd November, Dr. White, of Uddingston, died at his residence there with startling suddenness. Deceased, who was in his seventy-third year, studied medicine at the University of Glasgow, where he graduated M.D. in 1877, and for nearly thirty years had been in practice in Uddingston. On the day of his death he had made his usual rounds, and reached home about 9 o'clock in the evening. Shortly afterwards he complained of a severe pain in his left side, and became faint. He was got to bed, but did not rally, and very soon passed away.

In the late seventies and early eighties he contributed several papers to the *Journal* on salicylic acid and the salicylates. He also took some part in public affairs, and was for a term of years one of the Uddingston representatives on the Parish Council of Bothwell.

He is survived by a widow, two sons, and four daughters.

CURRENT TOPICS.

University of Glasgow: List of Medical Degrees.—At the graduation on 16th November, 1912, the following degrees were conferred:—

DOCTORS OF MEDICINE (M.D.)

I. With Honours.

John Shaw Dunn, M.A., M.B., Ch.B. (1905)—Thesis, "The oxydase of myeloid tissue and the use of the oxydase reaction in the differentiation of acute leukæmias."

Walter Gilmour, M.B., Ch.B. (1908)—Thesis, "The Wassermann reaction in theory and practice."

William Cooper Gunn, M.B., Ch.B. (1907)—Thesis, "The variation in the amount of complement present in the blood in acute infectious diseases, and its relation to the clinical features: with a short note upon the serum treatment of cerebro-spinal meningitis."

Alexander Mills Kennedy, M.B., Ch.B. (1908)—Thesis, "Cardiac arrhythmia: a contribution to its pathology."

Ivy M'Kenzie, M.A., B.Sc., M.B., Ch.B. (1902)—Thesis, "Cardiac irregularity: a study in the relation of structure to function."

II. With High Commendation.

Robert Tait Wells, M.A., M.B., Ch.B. (1903)—Thesis, "Report on dysentery in Hazaribagh Central Jail, India."

III. With Commendation.

Harry Prescott Fairlie, M.B., Ch.B. (1905)—Thesis, "A comparison of the relative values of chloroform and ether in general anæsthesia, with special reference to their influence on the blood-pressure."

Alexander Tulloh Inglis Macdonald, M.B., Ch.B. (1908)—Thesis, "The treatment of puerperal infections, with special reference to the use of autogenous vaccines."

Thomas Marlin, M.B., Ch.B. (1909)—Thesis, "Consecutive leucocyte counts in pulmonary tuberculosis, with controls in other diseases."

John Reid, M.B., Ch.B. (1899)—Thesis, "That acute anterior poliomyelitis is a specific infectious disease with a definite incubation period: with a report of an outbreak at Forth, Lanarkshire."

Daniel Stewart, M.B., Ch.B. (1905)—Thesis, "Observations on diphtheria, with special reference to serum treatment, dosage, and after-effects."

Lawrence Storey, M.B., Ch.B. (1907)—Thesis, "Anthrax, with special reference to diagnosis, prognosis, and treatment."

John Martin Taylor, M.B., Ch.B. (1907)—Thesis, "The blood changes in Burns."

IV. Ordinary Degree.

Neven Gordon Cluckie, M.B. (1880)—Thesis, "New corneo-conjunctival bridge operation for cataract."

Arthur Muir Crawford, M.B., Ch.B. (1906)—Thesis, "Auto-intoxication in disease, with special reference to gastro-intestinal toxæmia."

William Elder, M.B., Ch.B. (1901)—Thesis, "Hunger pain."
William Miller Fairlie, M.B., Ch.B. (1908)—Thesis, "An investigation of the ætiology, symptomatology, and diagnosis of lead poisoning."
Robert Dunlop Black Frew, M.B., Ch.B. (1908)—Thesis, "The control of post-scarlatinal diphtheria, with special reference to the 'carrier' problem in diphtheria."
Lawrence Hislop, M.B., Ch.B. (1907)—Thesis, "Coal-miners' nystagmus."
Cunison Deans Rankin, M.B., Ch.B. (1905)—Thesis, "An epidemic of molluscum contagiosum."
William Stewart Stalker, M.B., Ch.B. (1899)—Thesis, "The relative effects of heredity and environment on the nutrition of the rural elementary school child."
Frederick Wolverson, M.B., C.M. (1895)—Thesis, "The causation and treatment of miners' nystagmus, with notes on 28 cases."

DOCTOR OF SCIENCE IN PUBLIC HEALTH
(D.Sc. in Public Health).

Thomas Orr, B.Sc. (Public Health), M.B., Ch.B. (1904), M.D.—Thesis, "An investigation into the presence of certain intestinal bacteria in the fæcal excreta of infants."

BACHELOR OF MEDICINE AND BACHELOR OF SURGERY
(M.B., Ch.B.).

George Wallace, L.R.C.P., &c.

University of Glasgow Statistics.—The report of statistics, &c., relative to the University of Glasgow for the academical year from 1st October, 1911, to 30th September, 1912, has now been issued by the secretary of the University Court. During the year the teaching staff consisted of 35 professors, 65 lecturers, and 81 assistants and demonstrators. The salaries paid to the Principal and professors amounted in all to £29,052, to lecturers to £11,154, and to assistants and demonstrators to £7,370. Pensions amounting to £5,493 were paid to retired professors.

The total number of matriculated students was 2,794 (including 681 women), as compared with 2,790 (including 682 women) in the preceding year. Of these, 1,299 (including 548 women) were enrolled in the Faculty of Arts, 467 (including 39 women) in the Faculty of Science, 63 (including 1 woman) in the Faculty of Theology, 727 (including 82 women) in the Faculty of Medicine, 194 (including 2 women) in the Faculty of Law, and 44 (including 9 women) in a single class.

The following degrees were conferred:—In the Faculty of Arts: M.A., with honours, 38; M.A., ordinary, 187; D.Phil., 1; D.Litt., 1; total, 227. In the Faculty of Law: LL.B., ordinary degree, 6; B.L., ordinary degree, 2; total, 8. In the Faculty of Medicine: M.D., with honours, 2; with high commendation, 1; with commendation, 10; ordinary, 11; M.B., Ch.B., with honours, 6; with commendation, 8; ordinary, 83; M.B., C.M., 1; total, 122. In the Faculty of Theology: B.D., 12. In the Faculty of Science: B.Sc., with distinction, 19; ordinary degree, 71; D.Sc., 5; total, 95. The honorary degree of D.D. was conferred on 6 gentlemen, and the honorary degree of LL.D. upon 11. The total number of degrees granted therefore was 481, as compared with 493 in the preceding year.

At 30th September the number of members of the General Council of the University was 8,245, as against 7,946 in the previous year. 1,917 volumes, 640 parts of volumes, and 15 pamphlets were added to the library by purchase—669 of these volumes being volumes of periodicals. There were presented to the library 745 volumes, 656 parts of volumes, and 379 pamphlets—339 volumes and 102 parts of volumes being periodicals and reports.

THE RECTORIAL ADDRESS.–On 5th December the Lord Rector of the University (Right Hon. Mr. Augustine Birrell, M.P.) delivered his rectorial address in the St. Andrew's Hall. The available accommodation was fully occupied by a large and crowded audience, in which town and gown were well represented. Taking as his theme the sentence from *Coningsby*, "What wonderful things are events; the least are of greater importance than the most sublime and comprehensive speculations," the speaker told his audience that from the time since he first read them, considerably more than forty years ago, the words had lain on the very top of his memory. He thought that when we own to the fascination of great events "we are glad to recognise in the happening of great events the outcome and the realisation, in some more or less permanent form, of what was honestly due to real effort, and to that Might, that superiority of Strength, which comes from hard discipline and sternly maintained purpose." Still, carried away as he was forty years ago by the Disraelian dictum, even then he was taken aback by the audacity of the subsequent statement that, in comparison with them, "the most sublime and comprehensive speculations sink into insignificance." In a mood of melancholy pensiveness he, to-day, plucked up courage flatly to deny the statement. "What event that ever happened can compare in lasting significance with a sublime and comprehensive speculation! . . . Oblivion must have swallowed whole Iliads of great events. Has a great comprehensive speculation ever wholly disappeared? Whatever endures must rest on a thought basis, and must continue to be conceivable, credible, in accord with our mentality." So far as words were the vestments of thoughts, it was words and not deeds that marked the true epochs.

It might seem as if the great mass of people, busily occupied as they are with their own affairs, hard put to it to survive from week to week, must live outside all thought and speculation. What could it matter, then, what they think? But it did matter enormously. "Every one in the world has a stand of his own; some bases of thought, however conventional; some foundation, however seemingly insecure, which just manage to keep him from going down on all fours." Therefore, he would say to them, "do your thinking seriously, and never allow yourselves in these coming days to sneer at the convictions of other people, however remote from reality those convictions may appear to you to be." It was as contrary to the spirit of true learning for a man of scientific pursuits to sneer at the study of theology as it would be for a theologian to imagine that he could keep the scientific and historical criticism outside his curriculum.

The Renaissance, the Reformation of Religion, and the Revolution were great epochs indeed. The immediate forces of these great movements were now spent. The great achievements of these periods no longer dominated. "We have emerged from beneath their shadows, and can, and do, criticise, their several productions with the freedom which only belongs to those who live outside a jurisdiction." Were he once again young he would not dwell upon the transitional character of the period of time in which he found himself, nor upon any particular crisis he was supposed to be facing; but he would try to be content to lead the life of his own time, "sharing to the full its thoughts and speculations without recklessness, levity, or cowardice." He would say to them to think seriously. . . . "As men think so will they live; and it is the lives of men, and not blind fate, that weave the destiny of the human race."

LORD LISTER MEMORIAL.—A meeting of the Provisional Executive Committee on the proposed memorial in Glasgow to the late Lord Lister was held on 27th November, in the Library of the City Chambers. The Lord Provost presided, and among others present were Sir Hector Cameron, Mr. J. D. Hedderwick, and Mr. A. E. Maylard.

A deputation was received from the Royal College of Surgeons of Edinburgh to discuss the practicability of co-operation between the two cities in establishing a Scottish National Memorial to Lord Lister in the form of research laboratories. After discussion, it was felt that to promote such a movement would appear to be disloyal to the Committee in London, which had already recommended the establishment of an international Lister Memorial Fund for the advancement of surgery, from which either grants in aid of researches bearing on surgery, or awards in recognition of distinguished contributions to surgical science, should be made irrespective of nationality. It was resolved to recommend that the Lord Provosts of Edinburgh and Glasgow, and the Principals of the two Universities, who are members of the London Executive Committee, should be requested to keep prominently before that Committee the claims of Scotland for an adequate share of the grants referred to, and that these gentlemen should be entrusted with the duty of administering any funds that may eventually be apportioned to Scotland.

After the Edinburgh deputation retired the Committee considered the question of the character of the Glasgow memorial, and it was resolved to recommend that subscriptions be invited (1) towards the erection in Glasgow of a monument to Lord Lister, and to the provision of an endowment for the equipment and maintenance of the proposed Lister Museum in the Royal Infirmary, accommodation for which will be provided in one of the wards in which Lord Lister first put into practice his system of antiseptic surgery, and which ward the managers of the infirmary have agreed to retain for the purpose; and (2) towards the Lister International Memorial Fund promoted by the London Committee.

At a meeting of Committee on 11th December these recommendations were agreed to, and the Committee adjusted the terms of the appeal to be issued to the public. Subscriptions will be received by Mr. John S. Samuel, City Chambers, who has been appointed honorary secretary and treasurer of the fund.

GENERAL MEDICAL COUNCIL: CROWN REPRESENTATIVE FOR SCOTLAND.—The *London Gazette* of 22nd November announced the nomination, by His Majesty the King, of Dr. John Christie M'Vail to be for a period of five years Crown representative for Scotland on the General Medical Council of the United Kingdom.

Dr. M'Vail, who graduated M.B., C.M. St. And., in 1873, and M.D. in 1875, studied medicine in the University of Glasgow and in Anderson's College. He has had a long career in the field of Public Health, and only recently he resigned the post of Medical Officer of Health for the counties of Stirling and Dumbarton on his being appointed Deputy Chairman of the Scottish Commissioners under the National Insurance Act.

In the General Medical Council Dr. M'Vail succeeds his brother, Sir D. C. M'Vail, who has held the appointment for a period of twenty years, during which time he has taken a prominent part in the deliberations of the Council.

APPOINTMENTS.—The following appointments have recently been made:—

W. Charles Macartney, M.B., Ch.B.Glasg. (1909), to be Aural Surgeon to the Bellahouston Dispensary of the Victoria Infirmary.

Neil MacInnes, M.B., Ch.B.Glasg. (1907), to be Ophthalmic Surgeon to the School Board of the parish of Old Kilpatrick.

Hugh Morton, M.D.Glasg. (M.B., 1907), and Arthur D. Downes, M.A., M.B., Ch.B.Glasg. (1908), to be Extra Dispensary Physicians to the Royal Hospital for Sick Children.

Gregory Sprott, M.D.Glasg. (M.B., 1885), to be Honorary Medical Officer of the Hobart General Hospital, Tasmania.

H. Yearnshaw, M.B., C.M.Glasg. (1896), to be District Medical Officer of the Salford Union.

NEW APPOINTMENTS AT ROYAL INFIRMARY.—Up till now the physicians and surgeons of the Royal Infirmary Dispensary have acted as assistant physicians and surgeons to the hospital, and, in the latter capacity, have taken charge of wards during the absence of the visiting physicians and surgeons. The managers, after considering the matter, lately decided to appoint three assistant physicians and three assistant surgeons from the Dispensary staff, those appointed being freed of attendance at the Dispensary. By this change the arrangements as regards grading the staff approximate those which have been in existence for a comparatively long time at the Western Infirmary. At a recent meeting of the Royal Infirmary Board the following appointments were made:—

Assistant Physicians—J. Henderson, M.D., J. Scott, M.A., M.B., and A. W. Harrington, M.D.

Assistant Surgeons—J. Patrick, M.B., J. A. C. Macewen, M.B., and T. Kay, M.B.

THE WESTERN INFIRMARY: THIRTY-EIGHTH ANNUAL REPORT. —The following is a statement of the ordinary income and expenditure for the year ending 31st October last, as compared with the twelve months immediately preceding:—

	1910-1911.			1911-1912.		
Annual Subscriptions (including £149, 15s. 6d. for Skin Department), ...	£7,188	0	4	£7,084	4	6
Donations for maintenance, ...	585	1	5	813	0	6
Country subscriptions—per hon. local treasurers,	1,286	10	0	1,199	14	7
Subscriptions from employees in public works, warehouses, offices, &c. (including £73 6s. for Skin Department), ...	7,494	13	5	8,106	12	4
Church and Sabbath school collections, . .	1,942	0	6	1,950	10	2
Students' fees, ...	1,143	19	6	1,159	4	0
Interest on deposit receipts, loans, invested funds, &c., ...	3,777	5	9	3,047	16	3
Sundry income—Refuse sold, &c., ...	231	5	9	241	8	9
Ordinary income, ...	£23,648	16	8	£23,602	11	1
Ordinary expenditure, ...	39,242	17	3	40,569	15	4
Showing a deficit of . .	£15,594	0	7	£16,967	4	3

The abstract of extraordinary income and expenditure for the financial year is as follows:—

Extraordinary income (legacies, donations, &c.), ...				£12,200	5	6
Extraordinary expenditure—						
Furnishings, repairs, new machinery, &c.,	£1,615	14	8			
Lady Hozier Convalescent Home, . .	607	3	2			
	£2,222	17	10			
Balance transferred to maintenance, . .	9,977	7	8			
	£12,200	5	6	£12,200	5	6

It has been necessary to transfer to maintenance the balance of this account, amounting to £9,977, 7s. 8d.; and, in addition, a sum of £6,989, 16s. 7d. was withdrawn from stock account to meet the ordinary expenditure of the year.

Extension Fund—			
Balance from last year, ...	£12,988	11	8
Sums received during the year, ...	778	0	0
Interest, ...	432	19	8
	£14,199	11	4
Less paid for work completed, ...	8,848	18	3
Balance, ...	£5,350	13	1

The managers regret that the ordinary income and the balance of the extraordinary income combined were again insufficient to meet the ordinary expenditure, and it is clear that the financial position of the infirmary is far from being in a satisfactory condition. Another year similar to that now closed would entirely wipe out the unrestricted capital.

During the past year 574 patients who received medical or surgical treatment at the Western Infirmary were conveyed to the Lady Hozier Convalescent Home, Lanark, and received the benefit of fourteen days' residence. The managers again appeal earnestly to the public, and especially to those works from which patients come, for some suitable financial acknowledgment for services rendered by the Home.

After paying for the extensions at the infirmary, already completed, there remains on hand a sum of about £5,000. The block to connect the new wing with the old building, however, is still unbuilt. It is an integral part of the original scheme, and is much wanted. This building will contain an admission and casualty department, operating theatres, and the necessary additions to the administrative department, and is estimated to cost from £30,000 to £35,000.

The following table shows the number of patients treated from 1st November, 1911, till 31st October, 1912, also comparison with the previous year:—

IN-DOOR PATIENTS.

	1910-1911.	1911-1912.
In hospital on 31st October,	1910— 553	1911— 542
New cases admitted,	8,443	8,600
Total under treatment,	8,996	9,142
Remaining in hospital on 31st October,	1911— 542	1912— 583
Total treated to a termination,	8,454	8,559
	8,996	9,142

Of the in-door patients there were—

	1910-1911.	1911-1912.
Dismissed well,	4,099	4,399
,, greatly improved,	1,027	550
,, improved,	1,721	2,212
,, on other grounds,	936	685
Died in hospital,	671	713
Remaining in hospital on 31st October,	542	583
	8,996	9,142

OUT-DOOR PATIENTS.

	1910-1911.		1911-1912.	
	No. of Patients.	No. of Visits.	No. of Patients.	No. of Visits.
Treated in Dispensary—				
Medical cases,	12,316	33,411	11,441	31,155
Surgical cases,	10,275	70,239	10,557	70,089
Women for special diseases,	813	3,031	803	2,904
Diseases of the ear,	1,128	3,585	1,144	3,913
Diseases of the teeth,	648	648	515	515
Diseases of throat and nose,	3,619	11,112	3,577	10,558
Mental cases,	49	100	42	90
Vaccination,	494	833	329	600
Treated in Surgical Department— Chiefly for accidents,	5,588	29,820	4,732	32,503
Treated in Electrical, X-ray, and Light Department,	3,522	12,728	3,809	13,257
Treated by massage,	153	2,176	154	2,156
Skin Diseases,	3,202	9,986	3,482	9,862
	41,807	17,7669	40,585	177,602

Number of patients treated during the year—

	1910-1911.	1911-1912.
In-door,	8,996	9,142
Out-door,	41,807	40,585
Total,	50,803	49,727

The average daily number of in-patients was 553·50, as compared with 529·56 last year. The greatest number of patients in the hospital on one day was 612, and the smallest number 471. The average period of residence of each patient was 22·10, against 21·49 last year. The above figures show an increase of 146 in-door and a decrease of 1,222 out-door patients treated this year as compared with the previous twelve months. The number of deaths was 713, or 8·33 per cent of all the cases treated to a termination. Of the fatal cases, however, 189 were of such a hopeless character when brought to the hospital that the patients died within forty-eight hours after admission. Deducting this number, the death-rate is reduced to 6·26 per cent. Amongst the in-door patients treated, 2,036 were medical, 6,227 surgical, and 296 gynæcological; 1,921 were 12 years of age or under. Of these 1,679 were surgical and 242 medical The average cost per patient was £4, 8s. 9d., as compared with £4, 7s. 3d. in the previous year; and the average cost per fully occupied bed was £73, 5s. 11d., as against £74, 2s. 1d. in 1910-11.

Glasgow District Mental Hospital, Woodilee: Thirty-Seventh Annual Report.—The annual report by the committee of the Glasgow District Mental Hospital at Woodilee states that the number of patients on the registers at 15th May, 1912, was 590 males, 555 females, a total of 1,145, compared with 584 males and 543 females, a total of 1,127, at the end of the previous year. The increase is not so considerable as that of 1910-11, amounting to 45, and it is well below the average increase for the past five years.

The accounts show a satisfactory year's working, the balance at credit being £1,553.

The report by Dr. Henry Carre, medical superintendent, states that 95 patients, or 31·9 per cent of the admissions, were discharged recovered, while 81 were discharged not recovered. After dealing with various aspects of the year's work and figures, Dr. Carre adds—"Whether insanity is increasing or not is a question that repeatedly comes up for discussion, and although the lunacy admission rate in Scotland rose 5 per 100,000 of the population in 1911 as compared with 1910, against this is placed the still growing tendency to confine in mental hospitals senile and imbecile persons, in consequence of which there is a greater accumulation of chronic cases than has ever been before. With regard to the housing of the insane, it may be affirmed that this problem has been solved in respect of the larger number of chronic cases in mental hospitals. In the shelter of these institutions they are enabled to lead happy and often useful lives, and many of them reach extreme old age. The social puzzle for which a solution remains to be found is that of the moral degenerate or weak-minded criminal, who, although often well behaved and capable of doing good work in an institution, is impatient of control. Persons of this nature are aware that good behaviour in the mental hospital will procure for them liberty, and they are released, only to get into trouble again. They move in a circle between prison, asylum, and poorhouse—a proceeding most expensive to the community."

Dr. Carre also states that he is of opinion that although the National Health Insurance Act may apparently relieve the mental hospitals by allowing of home treatment, such treatment is in most cases of very doubtful benefit. Open-air treatment, prolonged bathing, electrical treatment, special diet, &c., are practically impossible except in the homes of the very wealthy or in hospital, and it is his experience that cases are constantly occurring in which recovery is rendered impossible because the patients are not sent to the mental hospital until the disease has reached an advanced stage.

The chief factors supposed to have caused, directly or indirectly, mental breakdown in the admissions were alcohol and prolonged mental stress. The latter was in many cases incidental to the unsettled state of the labour world, which affects very heavily the classes from which our patients are derived.

The percentage of deaths on the average daily number resident was 9·1, a lower rate than the average. No fewer than eighteen of the patients who died were between 70 and 80, and two were over 80.

Post-mortem examinations were made in 60·5 per cent of the deaths.

General paralysis (twenty-nine cases) accounted for 17 per cent of the admissions. The results of salvarsan treatment were not so successful as formerly, only one case showing marked improvement. This patient, a female, had ·3 grm. salvarsan injected in November, 1911, "since when a marked and continuous improvement has taken place in her condition."

In their reports, Drs. Marr and Macpherson, H.M. Commissioners in Lunacy, express themselves satisfied with the administration of the institution.

COMPLIMENTARY DINNER TO COLONEL SIR GEORGE BEATSON, K.C.B., V.D., AND LIEUTENANT-COLONEL HALLIDAY, R.A.M.C. (T.F.).—At the headquarters of the Glasgow Units, R.A.M.C. (T.F.), Colonel Sir George Beatson and Lieutenant-Colonel R. T. Halliday were, on 28th November, entertained to dinner on the occasion of their retiral from the Corps.

The dinner took place in the Drill Hall, a portion of which was screened off for the occasion, and the company numbered between seventy and eighty.

In the course of the evening the health of the guests was proposed in felicitous terms by Colonel D. J. Mackintosh, M.V.O., Assistant Director of Medical Services in the Lowland Division. An entertaining programme of music and song was afterwards carried out.

R.A.M.C. (T.F.): OPENING OF NEW HEADQUARTERS OF GLASGOW UNITS.—Some time ago (vol. lxxvii, p. 132) we referred to the new headquarters being erected for the Glasgow Units of Royal Army Medical Corps (Territorial) by the Glasgow County Association. The buildings, which have been in use for some months, have at length been completed, and were formally opened on 23rd November by General Sir Bruce Hamilton, K.C.B., commander-in-chief, Scottish Command.

The headquarters of the Medical Units form part of an extensive building, occupying an area of over 10,000 square yards, situated in the grounds of Yorkhill. The building includes headquarters for the Queen's Own Royal Glasgow Yeomanry, and a riding school for all the mounted units in the city area. The opening ceremony took place in the gallery of the riding school, in presence of a large company of members of the County Association, officers of Territorial units, representative citizens, and the general public.

Colonel R. C. Mackenzie, C.B., chairman of the County Association, before introducing General Hamilton, gave a brief description of the buildings. In referring to the headquarters of the R.A.M.C., he mentioned the indebtedness of the Units to Sir George Beatson, K.C.B., their late Assistant Director, but for whose persistency they would not now be in possession of such spacious accommodation.

Sir Bruce Hamilton then declared the buildings open, and, in the course of his remarks, referred to the disappointing amount of support which the Territorial Force had recently received throughout the country. He was glad to say, however, that Glasgow had always been very much to the fore in supporting the Territorial movement. There seemed to be a widely-spread doubt as to the utility of the Force under its present conditions of service and in its present state of training. He desired to suggest two points for consideration. First, the absolute necessity of an efficient force for home defence; and, second, that it was both the duty and the interest of every Briton to support to his utmost the form of defence which now existed, for without that support it could not be maintained either in numbers or efficiency. A good many thought that if the Territorial scheme were to fail, universal service was bound to take its place. But he would remind his hearers that the country had not as yet made up its mind in favour of compulsion, and, until it did so, we had no alternative but to rely on voluntary effort if we were to have any home defence at all. The Territorial scheme was honestly framed to meet the circumstances of the times, and it should therefore command respect and receive their ungrudging support. Just now all our Colonies were clamouring to bear their share of national defence. Was this a time for the Mother Country to be slack and undecided in her plans? He appealed through those present to the citizens of the second city of the Empire to throw themselves heart and soul into the business of the Territorial Force. Glasgow would thus set a fine example to the Empire—an example which would have a marked effect—and they would have the satisfaction of knowing that they had made a lasting impression on the character and development of the great nation to which they belonged.

Sir George Beatson, in proposing a vote of thanks to General Hamilton, referred to the Royal Army Medical Corps as the best friends an army could have.

Mr. R. B. Macouat, convener of the Property Committee of the County Association, then presented General Hamilton with a gold key as a souvenir of the ceremony.

After long waiting, the Glasgow Units of the Corps would seem at length to have come into their kingdom. There is no comparison between the new buildings and the dingy basement in which for so many years the Corps has carried on their training. It is impossible to expect better results as regards recruiting—the Units have all along been practically at full strength—but with improved surroundings and opportunities it is quite legitimate to hope for an even higher state of efficiency than the high level already reached.

MEDICAL TREATMENT OF SCHOOL CHILDREN UNDER THE GLASGOW BOARD.—A case of very considerable interest has just been raised, in the Court of Session, and judgment was delivered on it early last month. The question raised was whether the Board were entitled to provide for the treatment of school children. Their Lordships found that the Board had no power under the Education Act (1908) to provide for such treatment out of the rates.

There is a sum of £7,500 set apart by Parliament for the treatment of necessitous school children in Scotland for the year ending 28th February, 1913, and of this sum the Glasgow Board gets a share. There was a doubt, however, if the Board was entitled to use money *from the rates* for this purpose, and it was to remove this doubt that a special case was raised. The judgment makes it quite clear that the Board's doubts were well founded.

The powers under the Scottish Act differ from those conferred in the English Act of 1907, under which the local education authorities are at present, we understand, providing medical treatment on an extensive scale.

NATIONAL ASSOCIATION FOR THE PREVENTION OF INFANT MORTALITY AND FOR THE WELFARE OF INFANCY.—A post-graduate course on the feeding and care of infants, with special attention to the milk problem, will be held in London, under the auspices of the Association, during the present month. The first meeting takes place on 6th inst. at the Marylebone General Dispensary. Subsequent meetings will be held at the Dispensary and also at the Lister Institute, and at Guy's and St. Bartholomew's Hospitals. Arrangements are being made for members of the course to have the opportunity of inspecting, during the second week of the course, institutions which are carrying on work germane to the subjects of the course.

Syllabus and all information regarding the course can be obtained from the hon. secretary, Dr. Janet E. Lane-Claypon, 18 Craven Terrace, Lancaster Gate, London, W.

OPHTHALMIA NEONATORUM: ACUTE POLIOMYELITIS: CEREBRO-SPINAL FEVER.—The Local Government Board for Scotland have recently issued to local authorities a communication with regard to these diseases. In connection with the first of the three affections the Board have also issued a copy of the elaborate report drawn up by Dr. Thos. F. Dewar, their medical inspector, on the incidence of ophthalmia neonatorum in Scotland. The report is furnished with a convenient table of contents, and refers on one of the early pages to the report of the British Medical Association which was issued in 1909. To illustrate the importance of the subject, we may refer to the estimate that in 1889 there were about 7,000 persons in the United Kingdom who had lost their sight from ophthalmia neonatorum. It was calculated that in London 1 per cent of all children born suffered from purulent ophthalmia during the first few days of life, and that of these, one in twenty would be blinded, or partially blinded, as a result. It is said that in England and Wales there are over 25,000 blind persons, of whom 4,500 have been blind from birth. Of the latter, about a half owe their blindness to ophthalmia neonatorum. The census of 1901 showed that in Scotland there were 3,253 blind persons (1,666 males and 1,587 females), and that of these 492, or 15·1 per cent, were blind from childhood.

Figures such as these show how disastrous in its effect is the disease in question, and it is to be noted that the disease could probably in every case be prevented if the simple precautions that are necessary were observed. Not only so, but every case that does occur should recover without injury to vision, if it is promptly recognised and appropriately treated.

Compulsory notification of the disease is obviously very important, but there appears to be a widespread feeling that in order to secure full benefit from this measure there ought to be a hospital for the reception and effective treatment of the cases notified.

It will be remembered that notification became statutory in Glasgow on 1st August, 1911, for a period of three years from that date.

The circular of the Local Government Board is accompanied by a memorandum on acute poliomyelitis, which was drawn up in 1911 by Dr. Arthur Newsholme, medical officer of the Local Government Board for England and Wales. This memorandum gives an account of much that we know about the disease at the present day; though, of course, our knowledge has been rapidly extending during the past few years. The disease appears to have become much more common in Scotland—or, at any rate, in Glasgow and its neighbourhood—in recent times, and we have repeatedly met with the occurrence of more than one case in the same neighbourhood, tenement, or even family. It is striking to note the increased tendency of the disease to attack adults. The memorandum calls attention to the importance of isolation of the sick, and of promptly disinfecting all discharges from the patient.

It is very desirable that notification of this disease should be made compulsory. Recent researches suggest that only a small proportion of a community are susceptible to it, and that many individuals act as carriers of the infection, though they themselves remain immune.

There is also a memorandum by Dr. Newsholme on cerebrospinal fever, which has apparently ceased for the time being to be actually epidemic in Glasgow. The disastrous effects which may be produced by this disease are pretty generally known, and it must have inspired much terror among the population of Glasgow some years ago.

REPORT OF THE BRITISH MEDICAL ASSOCIATION COMMITTEE ON TREATMENT OF SIMPLE FRACTURES.—After a now considerable period of seeming neglect of the treatment of fractures attention is again being prominently focussed on this department of surgery. The British Medical Association appointed a committee to investigate the subject of the treatment of simple fractures, and the committee's report was published in the *British Medical Journal* of 30th November. The report, with appendices, extends to upwards of thirty-six pages, and the conclusions come to by the committee are full of interest.

In the case of children under 15 years of age, non-operative treatment of fractures of the shafts of the long bones (with the exception of fractures of both bones of the forearm) gives almost as high a percentage of good functional results as operative treatment. In patients over the age of 15 years the aggregate results of non-operative treatment are not satisfactory in comparison with the results of non-operative treatment in children: the older the patient the worse the result. While functional result may be good with an indifferent anatomical result, the securing of a good anatomical result is "the most certain way to obtain a good functional result." This holds true for the operative as for the non-operative methods of treatment.

As regards operative treatment, "it should not be regarded as a method to be employed in consequence of the failure of non-operative measures." This follows on the fact that the results of secondary operations compare very unfavourably with those of immediate operations. The committee—very wisely, we think—declares that operative treatment is "not a method to be undertaken except by those who have constant practice and experience in such surgical procedures." It adds that a considerable proportion of the failures of this method are "due to infection of the wound, a possibility which may occur even with the best technique;" and it concludes that, for surgeons and practitioners who are unable to avail themselves of the operative method, the non-operative procedures are likely to remain for some time yet the more safe and serviceable.

Time will show whether in the future these conclusions will require revision. Meanwhile, the committee will certainly have done a great service if the publication of its report results in a more widely spread attention to the details of the treatment of what is apt sometimes to be considered "only a simple fracture."

Scottish Burial Reform and Cremation Society, Ltd.—The directors of the Society have just issued their annual report. The report states that during the year 44 cremations have been carried out, being an increase of 9 over the previous year. In the year 1909-1910 the cremations were 26 in number. As an indication of how far the directors' expectations have been realised, it is noted that nearly all the available niches have been sold, and a scheme for the extension of the columbarium is under consideration.

Attention is also drawn to the fact that the tendency towards the adoption of cremation is increasing in England. In evidence of this it is noted that in St. Columba's, London, a special crypt for the reception of urns has just been erected, and previous cremation is being insisted on in many cases of interment in Westminster Abbey and St. Paul's Cathedral.

THE GLASGOW BIBLIOGRAPHICAL SOCIETY.—The first meeting of the newly formed Glasgow Bibliographical Society was held on 18th November in Baillie's Library, West Regent Street. Dr. David Murray, the president, presided over a good attendance.

The president read a paper on "Bibliography and the work of local bibliographical societies." Notwithstanding the dictionary makers, the word "bibliography," he said, had been used in its modern sense for more than a century since Johnson wrote. Bibliography was the foundation not only of the history of literature, but of all history, science, and philosophy. The British Musuem catalogue of one of the greatest libraries of the world, and the most catholic in its aims and collection, filled the idea of a general universal catalogue of authors and titles more comprehensive than the dreams of the projectors of a universal catalogue, and had gone far to provide an inventory of universal learning. A complaint to be made was as to the enormous cost at which the catalogue was sold to the general public. The President gave an account of the inception of the catalogue of the Glasgow University Library, which was first prepared in 1791 by Archibald Arthur, and its progress and development since. He also referred to important works of bibliography, of which it was estimated there were in existence 75,000 volumes of all kinds. What was wanted, he said, was that one system should be generally adopted and strictly adhered to.

The obvious work of a local society was to deal with the material at hand. That consisted of what might be termed part of the common stock of books in which people in general were interested, and what was purely local. A very large number of books were common to most libraries, and it was unnecessary to deal with them. There were many to be found in only a few libraries, and some recorded to be in other libraries. A catalogue would be a useful addition to the bibliography, and when undertaken it was to be hoped it would be made in accordance with modern requirements. It was well to know what they possessed in Glasgow, and so to learn what additions would be desirable. There were in the libraries many books not commonly met with, and such ought to be recorded and described for the benefit of scholars. The president referred to the bibliography prepared by Professor John Ferguson of early books on chemistry collected by the late Mr. James Young, and now in the library of the Technical College—an illuminating guide, Dr. Murray described it, to the history of early chemistry, and excelling in all respects every work of the kind attempted. A similar catalogue of Hamilton's library of books on logic, he suggested, would be a substantial contribution to philosophy. A hand list of Glasgow chap books would be useful to collectors and students of life and manners. At one time Scottish scholars were to be found all over Europe. The information which was scattered regarding these in many works required to be drawn together and revised, and along with them the works of the great crowd of Scots lawyers, which still wanted cataloguing. A bibliography of works by Scotsmen published in England and abroad was much wanted, and it was to be hoped some enthusiastic and competent worker would take it up. Printing had been carried on for nearly two hundred years before Glasgow possessed a printing press, and it was long before any work of literary importance was issued from Glasgow. The presses of Robert Urie and the brothers Foulis soon made Glasgow printing famous throughout Europe, and the Glasgow press was now no inconsiderable factor in the book production of the country. There was no book which recorded the output of the Glasgow press. The output was at first books of a devotional and religious character, controversial tracts, chap books, Hebrew and French grammars, treatises on geometry, and graduation theses.

Glasgow was still without a guide in the matter of books relating to its history, people, and administration, and so on. The volume of the late Dr. William H. Hill would be of great service in such a bibliography. Dr. Murray indicated various lines of research that might be followed in this field. Biography should be a special feature of the bibliography of Glasgow, a source that ought to be recorded being funeral sermons. District visitors' reports, again, which were generally consigned to the wastepaper basket, contained eighty years ago, when Glasgow was becoming a large and industrial city with a large Irish population, some startling information, and explained some of the evils that still existed. The industries of Glasgow, the railways and canals, and education were among the subjects noted by the president for investigation, as well as the penny and bawbee books, which gave a pleasant glimpse of the Glasgow nursery of a hundred years ago. The literature dealing with the manners and customs of Glasgow extended over a wide field. The work of a bibliographical society such as theirs would indicate important material for a history of Glasgow which had still to be written.

On the motion of Professor Ferguson, seconded by Mr. F. T. Barrett, a hearty vote of thanks was conveyed to Dr. Murray.

The Society intends to hold a Foulis exhibition next spring.

A PHOTOGRAPHIC ENCYCLOPÆDIA IN BRIEF.—Like every other technical process, photography is indebted to the experience of practical experts for constant improvements in methods of working. Many minds are at work upon the problems presented in exposure, development, toning, &c., and every year shows some important modification and advance. A simple, concise, and authoritative statement of present practice, excluding what is tentative and experimental and giving brief yet clear directions for every approved process, will be found in the "*Wellcome*" *Photographic Exposure Record and Diary.*

The desire for colour in photographic prints is one of the most noticeable features of present-day tendencies, and this subject is fully treated in the new edition of this handy pocket guide, which has just made its appearance. The method of producing blue and green prints by toning is described in detail.

The excellent series of tables relating to exposure which have made the *Diary* such a trusty guide in former years are brought up-to-date, and the book contains numerous diary pages for personal notes on photographic work and is fitted with wallet and pencil.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.

SESSION 1912-1913.

MEETING II.—25TH OCTOBER, 1912.

The President, DR. A. FREELAND FERGUS, *in the Chair*.

LANTERN DEMONSTRATION ON OTOSCLEROSIS.

BY DR. ALBERT A. GRAY.

[ABSTRACT.]

Dr. Gray said that otosclerosis used to be called dry catarrh of the middle ear, but the more modern work of German observers had shown that the middle ear was not actually affected, and that the condition was due to an abnormal growth of the bone surrounding the oval window, whereby fixation of the footplate of the stirrup was brought about. A preparation from the temporal bone of a woman who had suffered from otosclerosis for eighteen months before death (this being the earliest case yet recorded from which specimens have been obtained), showed a ring of diseased bone round the oval window. Microscopic sections of the part showed that the change in the bone was one of rarefication, the bone having become spongy, and containing large spaces filled with marrow. The diseased bone stained deeply, and thus was seen to be sharply delimited from the normal bone which formed the capsule of the labyrinth. Nothing abnormal was observable in the organ of Corti. A preparation from a more advanced case showed similar changes in the bone, with, in addition, extension of the disease to the footplate of the stirrup.

The sharply defined limitation of the disease negatived the view that the process was inflammatory; the appearance presented was rather that of new growth. On the same ground he would exclude infection from the middle ear as a cause. The disease had been attributed to changes in the blood supply, and was certainly common in association with such conditions as arteriosclerosis and syphilis, but often occurred independently of them. Probably the view of Manasseh, of Strassburg, that otosclerosis was a nerve disease, was correct; the lack, however, of sufficient fineness in existing methods of research prevented the recognition of the nerve lesions in early cases. In support of this view were the facts that tinnitus was a very common early symptom, that the disease was nearly always bilateral, and that the conditions which aggravated it were chiefly such as exhausted the nervous system.

As illustrating heredity in otosclerosis, the exhibitor showed genealogical trees of a number of families, many members of which were otosclerotic. In certain of these families the phenomenon of antedating was apparent, and in others was seen the very marked effect produced in a later generation by the union of two strains in which the tendency to otosclerosis was only slight. Certain of the family histories suggested also the possibility of an association between otosclerosis and deaf-mutism.

MEETING III.—1ST NOVEMBER, 1912.

The President, DR. A. FREELAND FERGUS, *in the Chair.*

LECTURE AND LANTERN DEMONSTRATION: THE LESIONS OF BILHARZIAL DISEASE.

BY PROFESSOR A. R. FERGUSON, Cairo.

Professor Ferguson's communication appears as an original article in this issue at p. 14.

OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

SESSION 1912-1913.

MEETING II.—27TH NOVEMBER, 1912.

The President, DR. JOHN LINDSAY, *in the Chair.*

I.—FRESH SPECIMENS.

A. BY DR. G. BALFOUR MARSHALL.

1. Specimen of carcinoma vulvæ removed from patient of 70 years.
2. A mixed-cell sarcoma of corpus uteri from patient aged 68 years.
3. Uterus with sarcoma of both ovaries; age of patient, 47 years.
4. Two specimens of carcinoma cervicis removed by Wertheim's operation.

B. BY DR. LOUISE M'ILROY (for Professor J. M. Munro Kerr).

1. Specimen of ovarian pregnancy.
2. Pregnancy in rudimentary horn; ruptured.
3. Myxomatous mass from interior of uterus.
4. Inversion of uterus with degenerating fibroid.

C. BY MR. DONALD DUFF.

Uterus with multiple fibroids removed by abdominal hysterectomy on account of hæmorrhage; patient aged 54 years.

II.—RECORD OF A YEAR'S WORK IN MY WARD IN THE GLASGOW ROYAL INFIRMARY.

BY PROFESSOR J. M. MUNRO KERR.

After mentioning some details of technique employed before and during operation, the cases of abdominal section during pregnancy were first dealt with. These numbered 6—

2 ovariotomies, 1 myomectomy, 1 appendectomy, 1 intestinal obstruction, and 1 ruptured bladder with retro-displacement of the gravid uterus. All recovered except the case of ruptured bladder. Pregnancy was undisturbed by the operations performed. This result was attained by handling the uterus with extreme gentleness: abortion is liable to occur if the uterus is roughly handled. In all the cases the patients were kept lightly under morphia for the first two days after operation.

There were 35 ovariotomies performed. Two cases fatal—1 an advanced malignant case: the other died of septic pelvic peritonitis on the fifth day. In 3 of the cases there was torsion of the pedicle: 1 occurred suddenly in the ward and had to be operated on immediately the cyst was found ruptured. Another case was found ruptured on operation. One case of ovarian pregnancy was encountered. Two cases of hæmatoma of the ovary were operated on, both illustrating the extreme pain often present in this condition.

Of malformations of the uterus there were 2 cases of entire absence: 1 case of pregnancy in a rudimentary horn; and 1 of uterus bicornis unicollis. In this case there was marked dysmenorrhœa, and the half-uterus into which a sound could not be passed was removed, leaving the other. The patient has since been altering regularly with almost no dysmenorrhœa. In 5 cases the uterus was removed for chronic metritis—4 by the abdominal route and 1 by the vagina.

Twenty-three operations were performed for movable backward displacement — ventrofixation, 12; Gilliam, 2; Sling, 9. One case was operated on for inversion of the uterus caused by a submucous fibroid: the inversion occurred suddenly: the tumour was removed and the vagina and uterus douched: the uterus remained inverted. A second operation was performed a fortnight later, during which the patient died.

Four cases of myomectomy occurred; one tumour removed during the third month of pregnancy was found to be undergoing necrobiosis. Hysterectomy for myoma was performed in 22 cases: all recovered. Twice hysterectomy was done for puerperal septicæmia; one recovered. Four other cases of severe puerperal sepsis were seen: one died. The infecting organism was the pneumococcus.

Of the 12 cases of malignant disease operated on, 3 were carcinoma of the body, 1 sarcoma, the others carcinoma of cervix. Three other cases seen were too advanced for operation. There were three deaths—a mortality of 25 per cent. Five Wertheim's operations were done; two cases died. Ten cases of extra-uterine pregnancy were operated on. Three were of special interest—(1) ovarian pregnancy; (2) extra-uterine sac adherent to bowel, and causing obstruction; (3) infected extra-uterine sac, in which case it was necessary to resect a portion of small bowel. Twenty-eight cases of salpingitis were operated on; 12 cases of appendicitis; and 6 resections of bowel.

III.—THE WIDENING OF THE SCOPE OF CÆSAREAN SECTION.

By Dr. A. W. Russell.

The field of Cæsarean section may be said to have undergone extension in two directions.

1. The development of the operation itself. Porro, and later Sänger, improved the earlier methods; and recently it has become possible for operators to publish long series of successful cases. The simple operation has a great variety of modifications. The abdominal incision has been enlarged to allow eventration of uterus; it has been made lower or transverse to give easier access to the lower uterine segment. The uterine incision also has been modified, *e.g.*, the sagittal fundal, the posterior cervical, and the transverse fundal. The most noteworthy recent development is the extraperitoneal Cæsarean section—the avoidance of the peritoneal cavity in the course of the operation. The most experienced operators never lose their fear of septic infection. A little over five years ago the first account of the extraperitoneal operation was published by Frank, and already hundreds have been recorded. The success of the operation depends on the ease with which the peritoneum can be pushed up from the bladder and uterus.

Varieties of the operation are the transperitoneal and flank incision methods. The obstetrician has in this operation a means of helping a woman with much less risk than by the intraperitoneal operation at a stage when labour is advanced: the risks of serious septic trouble are markedly minimised. We have in this operation a means of help in certain cases of placenta prævia and in transverse or oblique presentations with impaction.

2. The scope of Cæsarean section has been extended to cover a much larger area of operative work. It is possible to secure better results for mother and child by one or other method of this operation in many difficult and abnormal

cases than can be obtained by the older, cruder, often mutilating practices of high forceps, accouchement-forcé, decapitation, and embryotomy.

IV.—CÆSAREAN SECTION FOR OBSTRUCTION CAUSED BY A SUBPERITONEAL TUMOUR.

By Dr. James Laurie, Greenock.

Patient was admitted to Smithston Hospital on 12th September, 1910, having been [illegible] since the previous day, and attended by a midw[illegible]he child was alive, the os uteri well dilated, and a mass with smooth surface was felt through the posterior vaginal wall. Cæsarean section was done, and a live child weighing 8 lbs. was extracted. The wound was closed in layers. A week later the patient became restless, with rapid pulse, and temperature 103°. The mass was felt to be fluctuant, and was incised and drained. Later, under chloroform, the retro-uterine space was cleared out; large masses of hair and pieces of bone were removed. The patient was discharged well three months after admission.

V.—CENTRAL PLACENTA PRÆVIA SUCCESSFULLY TREATED BY CÆSAREAN SECTION.

By Dr. W. D. Macfarlane, Jun.

After mentioning the latest opinions expressed by American and British gynæcologists as to the indications and scope of Cæsarean section in placenta prævia, Dr. Macfarlane stated that he had seen five cases during the past year in which he had found that the methods of Braxton Hicks and vaginal plugging had not given satisfactory results. Four of the cases had long and tedious convalescence, either due to severe bleeding or resulting sepsis. One died from hæmorrhage. It would have been possible in all the cases to perform Cæsarean section easily, with probable successful result both to mother and child. By adopting the usually recognised methods the maternal mortality was not great, but the morbidity was excessive, and all the children were sacrificed. Recently a case was seen, and central placenta prævia diagnosed; child alive; cervix undilated within a fortnight of term. Cæsarean section was performed, with perfect result to mother and child.

In the cases reported by Krönig and Sellheim all the mothers and children recovered. This method of treatment is perfectly justifiable in the hands of one accustomed to abdominal surgery. Sellheim has recorded eight successful cases, both as regards mother and child, by the extra peritoneal Cæsarean section. Cæsarean section is the ideal treatment of central placenta prævia when the mother has not been infected by much handling, and the child is viable.

VI.—AN UNUSUAL INDICATION FOR CÆSAREAN SECTION.

By Dr. David Shannon.

The patient had a difficult first labour, forceps being used, and complete tear of the perineum resulted. Attempt at repair was made after the operation, without success. A second operation for the tear was also unsuccessful. A third operation by Dr. Tate, of London, gave an excellent result. Her second labour followed, resulting in another complete perineal tear. She was operated on again; the parts were largely composed of fibrous tissue. The result was fairly satisfactory. She became pregnant for the third time in November, 1911. Considering the certainty of further tearing, as the perineum was almost wholly made up of scar tissue, Cæsarean section was advised and performed. She was sterilised at the same time by tying the Fallopian tubes. She made an excellent recovery.

Drs. Russell, Oliphant, and *Macfarlane, Mr. Duff,* and the *President* took part in the discussion.

GLASGOW SOUTHERN MEDICAL SOCIETY.

A meeting of this Society was held on 5th December, 1912—Dr. Jas. A. Aitken, President, in the chair.

Dr. David Shannon, in a paper on "Some Common Mistakes in the Practice of Midwifery and their Results," advocated a more thorough clinical teaching of midwifery, pointing out that at any time after graduating one might be called on to apply forceps, perform version, treat a case of placenta prævia, or remove an adherent placenta, which are operations known to have a higher mortality than a gastro-jejunostomy or removal of an appendix. The importance of pre-maternity treatment of pregnant women was emphasised in the necessity for prompt detection of albuminuria, and, by its proper treatment, eliminating or minimising the risks of eclampsia, and also of the commoner conditions of hyperemesis gravidarum, ante- and post-partum hæmorrhage, death of the fœtus, and subinvolution, which are much more frequent where albuminuria exists.

A too common error was the diagnosis of contracted pelvis only when the patient was well advanced in labour. It should be diagnosed before labour begins, which can only be carried out by the practitioner seeing his patient in the last month of pregnancy, and estimating the relative size of the child's head to the brim of the pelvis. Systematic care of the nipples before childbirth prevents much trouble in nursing and many complications. It is during labour, however, that the majority of mistakes are made. The Registrar-General's returns show that the mortality from puerperal infection in the British Isles is practically the same to-day as it was forty years ago. A large proportion, also, of gynæcological ailments following mild attacks of puerperal sepsis might be avoided by more complete asepsis during labour.

Obstetrical operations are more dangerous than is generally understood. Striking evidence of the high mortality which inevitably attends operative delivery, even in lying-in hospitals, is afforded by the figures published by Andreas, of Marburg—from induction of premature labour, nearly 2 per cent; from version, 1·7 per cent; from application of forceps, 2·8 per cent; from manual removal of placenta, 8 per cent; while there was a rise of temperature in 50 per cent of all cases. Hence such procedures can never be lightly undertaken.

Interference in the second stage in most of the minor degrees of contracted pelvis is unnecessary, if due consideration be given to the relative size of the child's head and the brim of the pelvis. During 1909, in Professor Munro Kerr's clinic, there were 46 cases of contracted pelves, and out of that number 25 cases, with true conjugates ranging between 3¼ and 3¾ inches, delivered themselves spontaneously, without any fœtal or maternal mortality. The majority of these women were in the second stage of labour many hours, and the results were perfect. A common and grievous error is frequent in these cases when the practitioner, finding no progress in the second stage, applies forceps and fails to extract the child. Cæsarean section, if now performed, shows a mortality of 34·5 per cent, in place of the mortality of 2 per cent which prevails if carried out when forceps have not been applied, and hence we are driven back on craniotomy, with no living children and a mortality of 12·5 per cent. In occipito-posterior cases, forceps are often applied too early. Munro Kerr, in his book on *Operative Midwifery*, points out that 93 per cent of such cases rotate anteriorly, and that most do not rotate till the head is well down in the pelvis.

Too early delivery is responsible for many and severe injuries to the soft parts, many dead children, and a maternal mortality of 1·5 per cent. Early interference in face and breech presentations likewise leads to mischief. Manual removal of the placenta, it should be remembered, is a dangerous procedure, fraught with a mortality of from 8 to 13 per cent—more dangerous than many an abdominal operation—hence we should hesitate long before carrying it out.

The danger of rupture of the uterus in performing version after the liquor amnii has drained away was dealt with, and the importance of not leaving a patient after labour until satisfied that the uterus has contracted and retracted sufficiently to make the occurrence of post-partum hæmorrhage improbable.

Drs. Stewart, Leask, Lamb, Paton, Miller, Dunlop, Graham, and Peden took part in the subsequent discussion.

REVIEWS.

The Teratology of Fishes. By James F. Gemmill, M.A., M.D., D.Sc. Glasgow: James MacLehose & Sons. 1912.

Monstrosities, both in man and in the lower animals, have long been subjects of interest, and much time and labour have been expended in investigating their anatomical structure and in speculating on their causation.

The volume before us is the most recent in this field of research. As its title indicates, it deals exclusively with fishes, but the fact that "in their major abnormalities" these animals "show surprisingly close relationships with the mammals" suffices to indicate its importance to workers in human and general teratology.

In his introduction Dr. Gemmill states that the main content of the work is structural. He has, also, dealt briefly with other aspects of major and minor monstrosities in fishes, and their relationships with higher vertebrates are pointed out.

As regards origin and causation, we have not yet reached a firm basis whereon to build a superstructure. As the author points out, a great deal of the data required before properly founded generalisations can be formulated are still in process of accumulation. The present work is a good example of the accurate observations which go to form the necessary data. To anyone who has even the slightest knowledge of laboratory work it will be plainly evident that pains of a no ordinary kind must have been taken before the detailed observations now published could have been completed.

The author has not, however, confined himself to observations. He has, in the introduction, formulated certain conclusions of far-reaching application regarding the relations between malformations of spontaneous, or autogenetic, and those of acquired origin. Again, for example, we may quote the concluding sentences (on p. 18) of the "Summary" for Class I of double monstrosities :—"Important evidence on this vexed question [the influence of sensory nerves on growth] is afforded by the monstrosities just described. No trace exists of inner or adjacent fifth and seventh cranial nerves. Yet the inner sides of both heads are perfectly well developed wherever they have sufficient space for growth. It is thus evident that, here, the absence of a sensory nerve-supply has neither hindered nor disturbed the natural course of the development."

The arrangement of the matter is excellent, and makes for easy reference. Following on the introduction is a bibliographical list of close upon three hundred works and articles, arranged alphabetically according to the names of the authors. The subject-matter is in four chapters dealing respectively with double monstrosity, triple monstrosity, cyclopia, and minor abnormalities, and the system followed in considering the various monstrosities is easily grasped by reference to the table of contents.

Of the different abnormalities, double monstrosity occupies most space. Preliminary sections dealing with literature, records, classification, causation, &c., are followed by detailed descriptions of the various forms which the author has come across, and the descriptions are supplemented by numerous plates giving reproductions of photographs of the specimens, reconstruction-drawings, &c.

The plates are twenty-six in number, and contain in all one hundred and fourteen figures. An outline-tracing of each figure, with pointers indicating the various parts, is printed on tissue-paper, and can be superimposed on the actual figure in the plate. In this way the original figure, being unimpaired by lettering, gives a more accurate representation of the specimen.

The work, which will doubtless become a classic, is a monument to the perseverance and skill of the author, and reflects credit on the Embryology Laboratory of the University. As regards typography, it is a good example of the work of the University Press.

The volume is appropriately dedicated to Emeritus Professor Cleland.

Medical Benefit: A Study of the Experience of Germany and Denmark. By I. G. GIBBON, B.A., D.Sc., Author of *Unemployment Insurance.* London: P. S. King & Son. 1912.

AT the present time this book will be found of more than ordinary interest. The author claims that it is a strictly scientific inquiry, and it exhibits evidence of painstaking endeavour to state the actual facts, and to make the comments on these and the conclusions drawn from them as fair as possible. While reading the book one wishes that it had been possible to publish it a couple of years ago, for it supplies much information that would have been of the utmost service to the profession in the controversy over the National Insurance Act.

A number of general impressions are formed as one goes along; one is that "medical benefit" is a very difficult thing to arrange for. In Germany and Denmark, in spite of years of experience, things are not yet settled between doctors and societies; one sees that at the beginning the doctors were very badly treated indeed, and that only by uniting and fighting solidly did they get things improved. The cost of "medical benefit" has increased year by year as time passed, and insurance for this has been steadily extended to more and more people. There seems grave danger, not so much of actual malingering, but of an extension among insured persons of what the author calls valetudinarianism, with increasing demands on the sick funds and on the doctors' services. He thinks it "highly probable that the days of the voluntary philanthropic hospital is passing. It has many hours more to run, fortunately so, for the community cannot do without it for a long time yet, and the system is capable of further extension still. But the general trend is against it." In the countries dealt with, the societies, many of which are very small, administer the medical benefit, and the State only steps in under special circumstances. This strikes one as having worked unsatisfactorily.

The plan of the book is excellent. First there is an introduction which discusses who are insured, the organisation of these, contributions, public subsidy, administration, and benefits. In Germany, insurance is compulsory on certain classes with incomes up to £125 per annum, and the numbers have increased from 10 per cent of the population in 1885 to 22 per cent in 1910. In Denmark, sickness insurance is voluntary, and in 1909, 23 per cent of the population were insured. The succeeding chapters deal with medical benefit in general, choice of doctor, remuneration of the doctors, control of medical service, supply of medicines and surgical requirements, institutional benefit, insurance and public health authorities, and lastly, general conclusions. In the chapter on general conclusions the author summarises thirty-one conclusions, which he draws from the facts as he goes along, and there is really not one of these with which a doctor should not find himself in accord in this country if we except control by societies, and emphasise that confidential medical advisers of insurance authorities should not be allowed to interfere unduly with the practitioners who treat patients. One of the conclusions states that there are considerable advantages in making the insured person pay for part of the cost of medical benefit out of his private resources, and one of the reasons for this is that it would help to check valetudinarianism. On analysing his conclusions the author goes on to state six principles, viz., (1) needs should be met by corporate provision; (2) corporate responsibility requires to be tempered with a dash of individual liability; (3) just as there is required corporate provision for needs, so also is there required corporate provision for functions; (4) the corporate groups, whether provided to meet needs or functions, must be democratically organised and administered; (5) a generous measure of freedom must be allowed; (6) emphasis is laid on educational work in insurance.

Eleven appendices are added to the book which are of as much importance and interest as the rest of it. These deal with the organisation of the doctors, proportion of doctors to population, conflict between Leipsic District Sickness Society and the organised medical practitioners, conflict at Cologne, agreement at Leipsic (with regulations), Munich arrangements, Frankfort-on-Maine arrangements, particulars of some German district societies, 1910, Copenhagen reports for 1909 and 1910, and Copenhagen arrangements (agreement with doctors).

An index is provided, in which the items are arranged in groups under headings such as institutional benefit, remuneration of medical practitioners, &c.

It is well worth while for every medical man to read this book, even at this late stage of negotiation with the Government, for from what can be gathered from it, one thing is quite certain, namely, that even if an agreement is come to with the Government, our own scheme of medical benefit will take many years to arrange properly for the good not only of the doctors, but also of the general public.

Daily Register for the Use of Patients attending Tuberculosis Dispensaries or in Private Practice. As suggested by DR. H. DE CARLE WOODCOCK. London: Parke, Davis & Co. 1912.

WE would draw attention to a new *Daily Register* that Messrs. Parke, Davis & Co. have just introduced at the suggestion of Dr. de Carle Woodcock, of Leeds, for the use of patients attending tuberculosis dispensaries or undergoing treatment by private practitioners. The *Register*, intended to be sold at sixpence per copy, is sent out in a varnished envelope, which keeps clean, and which is washable should this be necessary.

The patient is his own book-keeper, jotting down each day answers to some forty questions, a task quite easy of accomplishment if the clear instructions given are followed. There is also space on each sheet for notes by the doctor as to the dose of, and reaction to, tuberculin; respiration, weight, and appearance of the patient. In addition, at the beginning and end of the book, there is a form for case-taking, with diagrams on which to mark the results of the physical examination of the chest. There is a sufficient number of pages for the records of thirty weeks.

The *Register* is quite admirable in its own way; but we are suspicious that it is not good for the consumptive to have "all his faults observed, set in a note-book, learn'd and conn'd by rote;" and, although it is difficult to see how home-treatment is to be carried on without the serious collaboration of the patient, there is, we fear, a danger that the beneficent *spes phthisica* may be frittered away in this daily marshalling of credit and debit.

Elements of Practical Medicine. By ALFRED H. CARTER, M.D., M.Sc. Tenth Edition. London: H. K. Lewis. 1912.

THOUGH no man can make a mole-hill out of the mountain of medicine, this is a brave attempt to do so; and that for thirty-two years *Carter's Medicine* has been in steady demand shows that the attempt has been appreciated by many generations of students. Even had this book been bad to begin with, which it was not, it has passed through so many editions, and has run the gauntlet of such a host of reviewers, that it could not now be anything but good.

The present volume contains about seven hundred pages, included in which are a section on diseases of the skin, a therapeutic index, and an appendix describing the technique of some clinical methods.

If the student will not begin with one of the *Osler* type, then he cannot do better than buy a *Carter*, or a *Wheeler*.

Immunity: Methods of Diagnosis and Therapy and their Practical Application. By DR. JULIUS CITRON. Translated from the German and Edited by A. L. GARBAT, M.D. Philadelphia: P. Blakiston's Son & Co. 1912.

THIS is a practical book designed for the laboratory worker, and treats in the main of the technique of the various reactions employed in the diagnosis of disease, especially tuberculosis and syphilis. The theoretical aspect of immunity is not, however, ignored, and therapy and prophylaxis are glanced at. The volume is well illustrated with figures, charts, and coloured plates.

The American editor and translator informs us that he has adhered to the original text, with the exception that the chapter on vaccines has been slightly revised and elaborated in order to make it conform more closely to the methods most recently advocated by Sir A. E. Wright, and that "here and there some features of special interest to the English reading public have been inserted."

Medical Gymnastics and Massage for the Treatment of Disease, Deformity, and Injury. By FREDERICK F. MIDDLEWEEK, L.R.C.P., L.R.C.S.E. London: Bale, Sons & Danielsson, Limited. 1912.

WHILE this extremely tenuous volume (viii and 33 pages) may possibly serve as a useful introduction to its subject for those to whom that subject has been previously *terra incognita*, it can hardly convey more real knowledge of the country to be explored than does a colonial agent's preliminary pamphlet. Certain comparatively simple exercises are perhaps adequately described, and we are told, without any condescension upon principles, that they are good for certain classes of disease. The writer then goes on to say, for example, that the "skilled operator makes use of stomach-shaking, stomach-pit shaking, abdominal shaking, transverse abdominal shaking, tremble-shaking, abdominal kneading, colon stroking and tremblings, and sacral beating," and after introducing us to these and other mysterious terms he turns his back upon them and us without further elucidation. The book may awaken curiosity, but does not satisfy it.

Health Resorts of the British Islands. Edited by NEVILLE WOOD, M.D. With the assistance of an Advisory Committee appointed by the Council of the Section of Balneology and Climatology of the Royal Society of Medicine. London: Hodder & Stoughton. 1912.

"THE present volume has had its origin in the belief that there was room for a work on the model of those manuals published on the Continent, in which health resorts as such, and matters of interest in relation to them, are the subjects exclusively dealt with."

It can be truthfully said that this book fills the void indicated by the editor. Practically all that is of importance concerning the balneology and climatology of the British Isles will be found here; and, what with the text, what with the index of health resorts, and what with the index of maladies, it should be an easy matter for the doctor to select the appropriate locality for every condition of patient. Further, since the inclusion of any place in this book is a guarantee as to its sanitation being satisfactory in all essential details, the sick man need be under no apprehension of contracting a beam while curing a mote.

Scotland receives generous treatment, and justice is done to the richness of the West in spots suitable for the treatment of all sorts of convalescents and invalids. This is a fact that cannot be sufficiently insisted on, since ignorance of it leads to many a weary journey. Even yet, Rothesay, for example, though styled the Madeira of Scotland, is by a goodly number of practitioners regarded not so much as a health resort as a place in which to hear the chimes at midnight.

The book is lavishly illustrated with forty beautifully executed photographs.

Direct Laryngoscopy, Bronchoscopy, and Œsophagoscopy. By DR. W. BRÜNINGS. Translated and Edited by W. G. HOWARTH, M.A., M.B., B.C.Camb., F.R.C.S.Eng. London: Baillière, Tindall & Cox.

IT is thirteen years since Professor Killian, at that time in Freiburg, first removed a foreign body from the bronchus by direct upper bronchoscopy. At the British Medical Association meetings at Manchester in 1902 Killian showed his instruments and explained his method. At first the method made slow progress. Now it has a literature devoted to itself.

This advance in popular favour is no doubt partly due to the fact that the tubes and other instruments have been improved by Dr. Brünings, the author of the present volume and at one time assistant in the Freiburg Clinic. A perusal of the work reveals the remarkable ingenuity which has been expended in devising appropriate mechanical appliances.

As the title suggests, the subject divides itself into three parts, but the fundamental rule which guides the whole procedure is that the hand should in every case be guided by the eye.

In the first chapter—the endoscopic technique—the instruments and sources of light are discussed in an exhaustive fashion, great stress being laid on preliminary practice with the phantom and on obtaining a complete mastery of the instruments.

Of local anæsthetics the author prefers cocaine, with which he has had most experience, and regarding the dose and absorption of which he has performed various interesting experiments. He paints the surface with cocaine in preference to the use of the spray or syringe, as being more definite in dosage and more potent in effect.

For general anæsthesia the author prefers chloroform or chloroform-oxygen. He discusses the indications for its use under three headings: (1) Reflex movements of resistance; (2) reaction to the pain of pressure and stretching; (3) psychical reactions (fear, &c.) The first is held to constitute no indication for general anæsthesia, because while it cuts off cerebral control it heightens reflex irritability, and when all reflexes are abolished anæsthesia becomes dangerous. In the second general anæsthesia may be allowed, but each case must be decided on its own merits. In the third class, if sufficient fortitude cannot be secured, general anæsthesia is indicated, and especially so in children.

The direct method of laryngoscopy is fully explained, with the aid of plates, so as to render it easy for even a beginner to follow.

The anatomy of the trachea and the bronchial tree, the position of the right and left bronchus with their measurements and relationships, are discussed and illustrated by numerous skiagrams.

In the chapter on direct tracheo-bronchoscopy clear indication is given regarding the employment of the upper and the lower method. The upper method is more used now than formerly, owing to the advance in the mastery of methods and the more complete set of instruments. Still, lower bronchoscopy has its advantages, as it is technically much easier to carry out and guarantees greater certainty and safety. In young infants the preference should be given to the lower method. Even in adults the author holds that it is "not right to endeavour at all hazards to avoid tracheotomy in favour of the more elegant upper method or even to force the latter in a manner not favourable to the interests of the patient."

A chapter is devoted to the direct examination in children, where it is mostly performed for foreign bodies. Of foreign bodies removed from the bronchi 69 per cent are in children under 12 years of age. The dangers of a too-prolonged bronchoscopic examination and the possibility of a subsequent subglottic swelling are pointed out.

The historical survey of œsophagoscopy is interesting. It is a little difficult to understand the author's position regarding the use of the pilot bougie. In the section, "Introduction by Feel," he explains the method of using the mandrin, but in the following section condemns its use. We have all felt that in some cases it is easier to pass the tube with the mandrin, though it violates the law that the eye should always guide the hand.

There is an excellent chapter on "Bronchoscopic Operations and Methods of Treatment." The tubes are most frequently used for the removal of foreign bodies from the bronchi, and their employment is of the utmost importance as a life-saving device. The diagnosis is often a matter of extreme difficulty. The history of having swallowed a foreign body is often defective, and this is especially so in children. Suspicion may be aroused by the spasmodic cough and suffocative attacks. Even the Roëntgen rays only show about 50 per cent in the skiagram, whereas with bronchoscopy 90 per cent can be located. The author affirms that it is better to examine ten times too often than once too little. He emphasises early bronchoscopy, and that attempts should be made at once to remove the foreign body. The hope of a spontaneous expulsion is small, for out of 1,064 collected cases only 218, or 20·5 per cent, were spontaneously expelled. The presence of an acute pneumonia is no contra-indication. If tracheotomy has to be performed, treatment is best carried out at once, as next day sensibility and painfulness are increased.

Regarding what may be called chronic foreign bodies—those lying behind a bronchial stenosis—the peculiarity is that the foreign body lies in a bronchiectatic cavity beyond the stenosis, and the difficulties connected with the removal are the constant cough and the increased secretion. Here there is an ingenious arrangement for dilating the stenosis and removing the foreign body. After the removal there is the question of keeping the stricture dilated, and this is accomplished by introducing, through the bronchoscopic tube, permanent tubes of suitable size. These stenosis-tubes are removed at first daily and then kept in for longer periods. The history is given of a case where, even after the removal of the foreign body, the purulent expectoration amounted to about 100 c.c. daily. When the stenosis-tube was used the expectoration lost its fœtor and diminished to about 20 c.c. At the end of three months the patient was scarcely coughing at all, and he was able to return to work. After the tube had been out for half a year, the stenosis showed a tendency to contraction. The treatment was resumed. At the present time, three years afterwards, the stenosis has a lumen wide enough to admit a thick pencil, and the patient's general and lung condition are so good that he blows a bugle in the town band.

The volume is worthy of the highest commendation. We have evidence of the immense amount of scientific work which has been done to try and solve the problems raised by the introduction of rigid tubes into soft yielding tubes.

Those in this country are specially indebted to Dr. Howarth for his excellent translation. The work will be found invaluable by the specialist and indispensable by the beginner. Both will find hints as to how to overcome difficulties which are inseparable from the method. Even those not specially interested in bronchoscopy will find the volume well worthy of perusal.

Medico-Legal Examinations and the Workmen's Compensation Act, 1906. By SIR JOHN COLLIE, M.D. London: Baillière, Tindall & Cox. 1912.

THIS little book of 128 pages embodies the views of a medical examiner of great experience, as to the difficulties which beset the surgeon in the course of his examinations of claimants under the Act, and, in the second section of the book, regarding amendments to the 1906 Act calculated to avoid many of the hardships and anomalies which presently exist.

The hints to examiners are essentially practical, and are illustrated by cases which have come under the author's ken. As is common to such books, there is much space devoted to the detection of malingering and simulation. The methods and precautions adopted by the author seem to proceed on the assumption that each applicant is at least guilty of exaggerating his complaint. Many cases are given in which the pursuer's medical advisers were wrong, but there are no examples to the contrary. On the other hand, it must be admitted that each examiner should take every precaution against deception, and he will find much valuable food for thought in this book.

The proposed amendments of the Act are eminently sensible. In particular, the simplification of reference to the medical referee (on the application of one party to the cause), whose decision shall be final; and the proposal that in each case submitted to the arbiter (sheriff or county court judge) a medical referee should be present to advise on technical points, are not only reasonable suggestions, but much needed reforms.

The legal aspects of the Act are discussed only in so far as they affect the medical examiner's relation to the intentions of the Act, and its modification by decisions of the higher courts.

The New Physiology in Surgical and General Practice. By A. Rendle Short, M.D., B.S., B.Sc.Lond., F.R.C.S.Eng. Second Edition, Revised and Enlarged. Bristol: John Wright & Sons, Limited. London: Simpkin, Marshall, Hamilton, Kent & Co., Limited. 1912.

The exhaustion, within a few months, of the first edition is a striking tribute to the satisfactoriness of this work, and shows that our laudation of it was amply warranted. In the present issue several chapters have been considerably extended, and a new one—a thoughtful digest of Sir William Macewen's recently-published researches on the growth of bone—has been added. Notice is taken of the newest teaching on the uses and dangers of saline infusions, the movements of digestion, and the relation of carbon-dioxide to shock. New paragraphs are also introduced treating of gastric secretion in man, the pituitary gland and the uses of pituitary extract, sensory localisation in the brain, the innervation of the pleura and the referred pain of pleuritis, and fibrinolysis.

Primary Malignant Growths of the Lungs and Bronchi. By I. Adler, A.M., M.D. London: Longmans, Green & Co. 1912.

Perhaps the first question which suggests itself from a glance at the title of this book is the one which forms the first sentence in the author's introduction, "Is it worth while to write a monograph on the subject of primary malignant tumours of the lung?" Of necessity the answer to this must be "yes," as it is no argument to say that as such tumours are very infrequent the subject is not big enough.

The pathological and clinical aspects of the malignant growths referred to are taken up by the author in considerable detail, and this is followed by 212 pages of tables. These tables include 374 cases of carcinoma, 90 of sarcoma, 99 of doubtful nature, and 18 of "miscellaneous" growths.

At the end of the book are sixteen plates showing photographic illustrations of various forms of the growths described: these are excellent, but the frontispiece, which is in colour, is very poor.

Essentially the book is a collection, from wide sources, of cases of primary growths of malignant nature occurring in the lungs and bronchi, and may be useful for reference in this connection.

Pharmacology and Therapeutics. By HORATIO C. WOOD, Jun., M.D. Philadelphia and London: J. B. Lippincott Company. 1912.

THIS book is well printed on good paper, and extends to almost 450 pages. Apparently it has been written for use in the medical schools of the United States, for almost the first thing that strikes one is that the weights and measures given are not those official in this country. The preparations given are apparently those of the U.S.P.

The arrangement is quite up to date. After a chapter extending to 25 pages devoted to the usual general introduction to the subject, one finds eight other chapters, entitled—Drugs used to affect secretion, Drugs used to affect nervous system, Drugs used to affect circulation, Drugs used to affect the alimentary tract, Drugs affecting metabolic processes, Drugs acting on causes of disease (anthelmintics, antimalarials, disinfectants), Extraneous remedies, Drugs of minor importance.

In these chapters materia medica proper is not, as a rule, discussed at any great length, and it might, with advantage to the size of the book, be placed in smaller type. Physiological action is discussed more or less systematically. Therapeutic uses are given pretty fully, and where necessary toxicology is alluded to.

After carefully going over the book, one concludes that it is a plain, up-to-date text-book, suitable for use where the

U.S.P. is official, but possessing no special advantages over one or two well-known books on the subject in this country; and, further, that it is somewhat bulky, and a little expensive, compared with these books.

Quinquennium of Medicine and Surgery (1906-1910). Edited By J. W. Ballantyne, M.D., F.R.C.P.E. Edinburgh: William Green & Sons. 1912.

Within the 400 pages of this book is compressed a mine of valuable information. After a most careful perusal of it we have come to the conclusion that its value can scarcely be exaggerated. The general practitioner, without much trouble, will find himself armed with the latest theories of both medical and surgical conditions, and with the most recent ideas with regard to treatment and prognosis. In those days of quick advance of medical research this volume is as necessary in the equipment of the practitioner as the elementary text-book is to the student preparing for examination. The index is very complete, and enables one at a moment's notice to get the information he desires. Considering the purpose of the book it could not have been prepared in a more condensed form.

We have the greatest pleasure in recommending this volume to the practitioner, whether engaged in private or in hospital practice.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

EDITED BY ROY F. YOUNG, M.B., B.C.

MEDICINE.

Cutaneous Symptoms of Lymphadenoma. By F. H. Watson, M.B., B.C. (*The Medical Chronicle*, September, 1912).—The skin may be affected in various ways in lymphadenoma, such as alterations in colour (pigmentation, growth, hæmorrhages), or cutaneous irritation. Only a small proportion of cases show any cutaneous changes. Most patients are anæmic, due to the ordinary blood changes occurring during the disease. The blood counts of the cases examined show diminution, in the red cells, to be severe. Bronzing of the skin may occur. It may be due solely to the use of arsenic or x-rays, but in some cases it occurs where neither of these remedies have been used. So far as can be judged from the cases collected, it occurs only in those cases where the abdominal glands are widely affected. Rolleston explains this either (1) as the result of irritation of the sympathetic nerve fibres by enlarged retroperitoneal glands, the resulting pigmentation of the skin being like that seen in other abdominal conditions, such as some cases of tuberculosis and malignant disease of the peritoneum, and also in pregnancy ; or (2) by the internal secretion of the suprarenals being prevented from passing into the circulation.

Dr. E. Stratford reports a case of lymphadenoma in a woman of 63 years, who had a slight attack of jaundice during a period of pyrexia. When the temperature fell the jaundice disappeared.

Purpura is rare in lymphadenoma, for Langcope did not find it mentioned in any of his eighty-six collected cases. It does occur occasionally, very possibly due to secondary infection.

In a case reported by Hemingham in 1902, the glands showed the structure of lymphadenoma and the presence of tuberculous infection. According to Tyson, "purpuric rashes are sometimes present, and are due to the hydræmic state of the blood."

Pruritus occurs, according to Rolleston, in three cases out of twenty-one.

The author has come across a fourth case since in a boy, æt. 9 years. He had been treated over a long period with x-rays, and was deeply pigmented. Rolleston says of pruritus, "it is natural to refer the pruritus to toxæmia due to the evolution of the disease ; but to explain why it occurs in only a small proportion of cases, it might perhaps be argued that its occurrence depends on the patient's idiosyncrasy or to some intercurrent condition, possibly an infection."

As regards the question of the effect of the arsenic and x-rays as a causative factor in these cases of lymphadenoma with pruritus, all the writer's cases had arsenic, two of them were having active treatment when the pruritus occurred. Out of three cases two had no x-ray treatment, and the treatment in the third had been stopped for some time before the pruritus commenced. According to Nicolan, itching of the skin may also be associated with general exfoliative dermatitis, urticaria, or prurigo.

The disease may attack the skin itself, but this is rare.

Erythematous and bullous eruptions may occur, the cause and origin of which are unknown.—D. Ross Kilpatrick.

DISEASES OF THE EYE.

Miners' Nystagmus. By T. H. Butler, Leamington (*The Ophthalmoscope*, vol. x, December, 1912).

Miners' Nystagmus: A Retrospect. By J. Court, Staveley (*The Ophthalmoscope*, *ibid*).

Colour and Light in Relation to Miners' Nystagmus. By H. S. Elworthy, Ebbw Vale, Mon. (*The Ophthalmoscope, ibid*).

On Miners' Nystagmus (Neurosis). By T. L. Llewellyn, Trentham (*The Ophthalmoscope, ibid*).

Coal Miners' Nystagmus. By B. Cridland, Wolverhampton (*The Ophthalmoscope, ibid*).

These five important papers were contributed to a discussion on miners' nystagmus at the Oxford Ophthalmological Congress in July, 1912.

Butler, in opening the discussion, directed attention to certain questions on which there is at present a difference of opinion. With regard to the first of these he held, notwithstanding Simeon Snell's cases, which he critically discusses, that miners' nystagmus is confined to the collier. In support of the contention that the disease may be present without the nystagmus, three cases are cited, one of which subsequently developed nystagmus. The symptoms shown by the other two cases, viz., the twitching of the lids, the head nodding, the lowered visual acuity, the contracted field of vision, the complaint of lights dazzling and oscillating, are all subjective or easily imitated signs. Such cases must, therefore, be carefully investigated because of the increasing number of claims for compensation on account of this scheduled disease.

He considers that hemeralopia is frequently present, especially in the open country away from artificial lights, but that errors of refraction are not more common than among other colliers. Upon the question of return to work in a pit after recovery from all symptoms he does not give a decided opinion, but states that relapses are sometimes more severe than the original attack.

Upon the question of etiology the author gives an extremely good summary, and, in view of the other papers, it may be well to give the chief points. The myopathic theory does not account for the facts. The disease is confined to coal mines, and is unknown in other mines or trades where men work in cramped positions. It does not explain the trembling of the hands, nor the fact that the nystagmus is often circular. It is doubtful, therefore, if cramp is even a secondary factor.

As to defective illumination, photographic plate makers work in total darkness, but do not develop nystagmus. But that poor light is an important factor is shown by the rarity of the disease in mines worked by candle light. The incidence of the disease has been greatly reduced in Germany by the introduction of a better lamp. The disease first began to be described when the use of the safety lamp was enforced by law. Nystagmus is often directly incited by darkness.

Other factors contributing to the production of nystagmus are the black walls disturbing co-ordination, the inhalation of coal gas, and of small doses of hydrocarbon over long periods of years. The opinion that the lesion lies in the central nervous system is supported by most of the other speakers. It is only thus that the presence of tremors in so many groups of muscles can be explained.

J. Court, who has been in practice in Staveley for forty-seven years, gives an account of the controversy between himself and Snell on the etiology, when the latter was supported by almost all ophthalmic surgeons. He advised the Home Secretary in 1911 to hold a Government inquiry in view of the rapid increase in claims for compensation, viz., 460 in 1908 and 1,618 in 1910. This number will increase unless there is better illumination, because every year shallow pits, where naked lights are used, will be worked out, and the men will go to the deep collieries, which are nearly all "fiery," and safety lamps are necessary.

A second reason is the advice of the ophthalmic experts, that no matter how mild the case is the man should leave his work at the pit. He further points out the legal discrepancy between the directions to the Certifying Factory Surgeons and Medical Referees under the Compensation Act, which say that both officials must be satisfied that the claimant must be quite incapacitated from work at the time of giving up his employment, . . . or the Courts will be asked to set aside the certificate; and the advice of the Departmental Committee of 1907 that, however mild the case, the sufferer should leave off work.

H. S. Elworthy, in his paper, gives the results of careful investigations of colour and light in several pits in relation to miners' nystagmus. A third factor is required, for without surface reflection vision is impossible. The surface brightness was, therefore, investigated. In other words, "the thing of real importance is the amount of light that is reflected back from the surface into the collier's eyes, rather than the amount of light thrown on that surface." Some preliminary experiments seemed to show that with candle and coal better results are obtained with double the light and half the colour than with half the light and double the colour. Experiments on surface brightness of coal gave ·02 to ·08 foot candles per candle at 1 foot distance. Details are also given of the method adopted for measuring colour on the surface of coal in pits by mixtures of black and white.

The "chromophotic index" of the mine is obtained by multiplying these three factors together, viz. (1) the candle-power of the light used at a working place; (2) the surface brightness, in foot candles, of the coal (or ore) at a "mean" (average working) place; and (3) the colour relief at the spot. To get a convenient figure the decimal point is moved five places to the right.

A "mean" place is a place about midway between the fresh air coming in and the exhausted air going out, and of average colour.

The index bears some relation to the amount of nystagmus, but the author considers that it needs confirmation by further investigations.

The results are given in tabular form. In five mines producing nystagmus the chromophotic index varied from 15 to 409, and was in inverse proportion to the rate of incidence of nystagmus from ·80 per cent in the lowest index to ·037 per cent of nystagmus incidence in the highest index. In three mines that do not produce nystagmus the chromophotic index varied from 4,701 to 106,392, that is, from ten to two hundred times higher than the highest of the nystagmus producing mines. The index may be very much raised by whitewashing the roof, the upper half of the sides, and the roadway, or by doing the roof and using better lights doubled. By these means the 15 can be raised to 6,012. Experiments were also carried out with different lamps. Some method, if such alterations were adopted, must be invented of warning the collier of fire-damp.

T. L. Llewellyn reports that, among 527 consecutive certified cases, 504 worked with lamps and 23 with candles, but 14 of the latter had previously worked with lamps. The light given by a standard candle is ·635 candle-power, while the safety oil lamp is only ·14, or four and a half times less. The candle can be set much nearer the face of the coal than the lamp, which is more easily struck by the pick. A table is given showing that in five pits there was a greater percentage of nystagmus with the more defective lamps. This author is of opinion that errors of refraction play a *rôle* in the etiology, and considers that there should be a preliminary test of the vision before employment in mines. Tables are also given showing the inability of the nystagmus patient to detect the fire-damp cap on the flame unless in advanced stages, a danger first detected by the late Simeon Snell; and the relation of the coal surface illumination to the incidence of nystagmus, thus confirming Elworthy's work.

B. Cridland points out that the case-incidence of nystagmus has risen from practically *nil* fifty years ago to a considerable percentage now. During that time there have been two conditions in the mine which have varied; they are the alteration in the lighting and increase in the mine depth. The latter is not of great importance, for whilst there has been an average steady increase in depth, the case-incidence has not corresponded in proportion. Conditions which have not altered are the men themselves, with their refractive errors and the position in which they work, &c. This author suggests that the second factor should be the character of the illumination, and, in particular, the presence of ultra-violet rays in the hydrocarbon flame, which are absent from the tallow candle.

As to pathology, the associated set of symptoms which are now generally called "neurosis," point to the situation of the lesion in the higher centres of co-ordination. He found the average age of onset 41 years, after an average of 29·5 years at work: while work was continued 11·8 months with symptoms; and the general health was good.

These papers are of great practical interest, and should be read in the original.—W. B. Inglis Pollock.

DISEASES OF THE THROAT AND NOSE.

Diseases of the Accessory Sinuses of the Nose. (*Edinburgh Medical Journal*, November, 1910.)—Some very interesting questions were raised by Drs. Fraser and Verel in the annual report for the year 1912, from the Ear and Throat Department of the Royal Infirmary, Edinburgh, under the charge of Dr. E. Logan Turner.

The authors of the papers give a very plain, straightforward statement upon the results obtained in the cases upon which they operated, and the profession will be indebted to them for a frank expression of their present views. Surgeons and general practitioners, alike, have frequently to advise in such cases, and the prognosis is often by no means easy. Amongst others, the following statements and questions are of interest:—

1. The periodicity of pain in cases of frontal sinus disease is interesting. We know that the inferior turbinals tend to become engorged at night. Is it possible that the middle turbinals are engorged during the time at which severe headache is present in frontal cases?

2. What are the indications for operation in cases of frontal sinusitis? One of the present writers has been informed that Killian himself is by no means satisfied with the present technique of his operation.

3. The value of transillumination is doubtful, and at most this proceeding is only an aid to diagnosis.

4. With regard to the operations upon the frontal sinus, there seem to be two weak points: (*a*) The danger of necrosis of the bridge, and (*b*) narrowing of the opening into the nose, allowing of accumulation of pus in the area behind the bridge.

5. The writers are by no means satisfied with their technique in intra-nasal operations on the antrum.

6. The frequency of sphenoidal suppuration. One of the present writers has shown that sphenoidal sinus suppuration is much less common than is usually reported, and that naked-eye examination of the contents of the sphenoidal sinus is not a reliable guide to the presence of sinusitis.

—John Macintyre.

Demonstration of Treatment of Malignant Growths of the Mouth and Pharynx by Diathermy (*Proceedings of the Royal Society of Medicine*, Laryngological Section, June, 1912).—In view of the attention which is now being paid to the use of diathermy, it is interesting to note what has been done by Mr. Douglas Harmer and Dr. Lewis Jones in diseases of the upper respiratory tract. The results in three cases are given. No doubt, at present, the method is in the experimental stage, but it has been used in different parts of the body by many surgeons, although there has been, so far, comparatively little done in laryngology.

Dr. Lewis Jones explained that the apparatus used was a modified form of that employed for treatment by high-frequency currents. He said "it was known that currents which oscillated at a very high speed could be passed through the human body without causing any shock or sensation even when a current of 500 m.a. or more was passing. A feature which had been partly overlooked was that the patient's tissues were warmed by the passage of such a current. Among the effects of electricity on the human body there were two main groups—there was the shock and the muscular contraction, which were ionic phenomena; and there was the thermal effect. Ions moved with comparative slowness, so if the electric oscillations were rapid enough the sensory and motor phenomena disappeared, and only the thermal remained. The apparatus now exhibited was one of the new devices for producing sustained oscillations of very great frequency. It permitted the patient to bear a current of an ampere—*i.e.*, 1,000 m.a.—and to feel nothing more than a comfortable sensation of warmth, which slowly spread up the arms when the electrodes were held in the hands. In order to use this heat for surgery t was necessary to concentrate it, and this was done by using a small button-sized electrode. The heating effect was not superficial, but penetrated to a considerable depth, as was shown by Dr. Jones in an experiment upon a piece of liver and of kidney tissue."

Three cases were shown—(1) Epithelioma of soft palate, anterior pillar of the fauces, and base of tongue, a hard, nodular growth adhering to upper and lower jaws; (2) epithelioma of soft palate, tonsil, and tongue, undergoing treatment; (3) extensive epithelioma of soft palate, tonsil, and tongue, undergoing treatment; growth deeply ulcerated.

In the first case, the treatment by diathermy was carried out on 14th March, 1911. There was no tendency to recurrence until April, 1912, when some nodules appeared on the scar and some glands enlarged in the neck. In the second case, the treatment had only been carried out two months before the date of the report, but the result given was excellent. In the third case there was great palliation and the disease was very extensive.

An anæsthetic is required for the operation, which should be completed in a few minutes; there is no bleeding even in the vascular tumours. There is very little pain even after extensive burning, and the sloughs separate in from five to ten days. Very little inflammation occurs. The danger of hæmorrhage is said to be not very serious, and the parts become covered with soft mucous membrane.—John Macintyre.

Dangers of Menthol in Rhinology (*Proceedings of the Royal Society of Medicine*, Laryngological Section, June, 1912).—Dr. Leroux, of Paris, has been investigating the question of dangers of the administration of menthol in nasal affections. The agent is so frequently employed that the risks and inconveniences have not been sufficiently carefully studied. The fact that cases have been observed by him and Killian, Mayet, Armand-Delille, Gomet, Ruffier, Pujol, and others will show that the matter is worthy of further consideration. Under what is described as the hyperacute condition we have a series of cases, met with, as a rule, in sucklings and young children who have been treated with menthol in some form or other for catarrh. The symptoms described have been sudden intense dyspnœa, threatening asphyxia, cyanosis, imperceptible pulse, faintness, hypersecretion of mucus in the nose, throat, and larynx, and convulsions. Death happened in one case, and was only averted in some of the others by prompt treatment. These troubles attending the use of menthol are attributed to spasm of the glottis, caused by direct contact or by reflex irritation from the nostrils, or too much secretion in the upper air passages from reflex stimulation, and thus causing asphyxia. Further, there may be reflex inhibition of the heart from irritation of the nasal nerve branches, and Killian thinks that inflammation of the mucous membrane is apt to produce this.

Dr. Leroux, when speaking of cases classified as acute, refers to acute conjunctivitis and pseudo-erysipelas observed by Triboulet, also pharyngeal cough and reflex otalgias noted by Laurens. In chronic conditions there is erythema in the region of the nose and lips, and the constant use of menthol to the mucous membrane of the nostril is apt to produce hypertrophy of the anterior extremities of the inferior bodies.—John Macintyre.

DENTAL SCIENCE.

Infected Areas Around the Ends of Roots of Teeth. By M. L. Rhein, M.D., D.D.S. (*Dental Register*, June, 1912).—The author mentions that the spongy character of the alveolar process about the ends of the roots of teeth makes it especially vulnerable to infection. He refers specially to the condition known as blind abscess, in which there is a granulomatous defence, causing a fibrous encystment of the abscessed area. In this case there is no sinus affording an outlet into the mouth. There is often no symptoms, and the infected area increases in size, and often causes discomfort for the first time after five or ten years of steady encroachment on the contiguous surfaces.

The toxæmia resulting from such conditions is of such a slow and insidious nature that generally great harm is done before their presence is suspected. Dr. Rhein advocates the use of the radiograph for making diagnosis comparatively easy.

He points out that absorption of pus from such abscesses produces the same results as pus absorption in any other part of the body. In dermatology, the various acnes, eczemas, herpes, urticaria, erythemas, œdema, seborrhœa, psoriasis, erysipelas, &c., can have such an ætiologic factor or their conditions complicated by the presence of such septic foci; affections of the upper respiratory tract, the eye, the ear, have all been traced to the same source. Endocarditis and all the allied joint affections frequently owe their inception to a blind abscess. Pernicious anæmia and diseases of the nervous system may have their origin through this condition. The author remarks that failure of the medical curriculum to give proper stomatologic instruction to the student is primarily the reason why so many forms of malnutrition proceed to an incurable stage before they are even diagnosed.

He states that Gilmer, of Chicago, estimates that 25 per cent of the people have infected areas around the teeth apices.—J. F. W.

Trigeminal Neuralgia—Removal of Gasserian Ganglion in a Woman, aged 83 years. By Morrison Davies (*Medical Press and Circular*).—The patient had been suffering many years from severe right-sided trigeminal neuralgia, for which she had been treated by different methods with only temporary relief, the previous treatment being alcoholic injections and peripheral neurectomies.

Owing to the advanced age of the patient the operation was done in two stages to diminish shock.

First stage consisted in turning down an osteoplastic flap in the usual position for reaching the ganglion by the Hartley-Krause method. The dura mater was found to be very adherent and was stripped up from the floor of the skull with great difficulty. The flap was then replaced and stitched.

The second stage of the operation was undertaken ten days later. The flap was turned down once more, and the middle meningeal artery exposed. This was ligatured and then divided. The raising of dura and brain was continued until the inferior and superior divisions could be seen passing out through their respective foramina. Dura surrounding the Gasserian ganglion was divided. No attempt was made to define the inner border of the ganglion or the ophthalmic division, as it was intended to leave these so as to minimise the risks and shorten the time of the operation, and no pain had been experienced in the ophthalmic area. The inferior and superior divisions were divided, and the ganglion itself was divided between the ophthalmic and superior maxillary divisions, so as to leave, however, the whole of the sensory root attached to the main part of the ganglion. The ganglion was seized in forceps, and the sensory root plucked out from the brain.

The anæsthetic used was chloroform, and the operator draws attention to the point that once the skull is opened the amount of the anæsthetic given must always be diminished.

The patient made an excellent recovery, showed no symptoms of cerebral softening or of neuropathic keratitis. When last heard of eighteen months after operation she was still quite free from pain.—J. F. W.

Books, Pamphlets, &c., Received.

Diseases of the Liver, Gall-Bladder, and Bile-Ducts, by Humphry Davy Rolleston, M.A., M.D.Cantab., F.R.C.P. Illustrated. London: Macmillan & Co., Limited. 1912. (25s. net.)

The Malthusian Limit: A Theory of a Possible Static Condition for the Human Race, by Edward Isaacson. With 30 diagrams. London: Methuen & Co., Limited. 1912. (3s. 6d. net.)

The Nutrition of the Infant, by Ralph Vincent, M.D. Fourth edition. London: Baillière, Tindall & Cox. 1913. (10s. 6d. net.)

Studies in Clinical Medicine, by C. O. Hawthorne, M.D. London: John Bale, Sons & Danielsson, Limited. 1912. (6s. net.)

Lead Poisoning and Lead Absorption: The Symptoms, Pathology, and Prevention, with special reference to their Industrial Origin and an Account of the Principal Processes involving risk, by Thomas M. Legge, M.D.Oxon., D.P.H.Cantab., and Kenneth W. Goadby, M.R.C.S., D.P.H. Cantab. London: Edward Arnold. 1912. (12s. 6d. net.)

Forensic Medicine and Toxicology, by C. O. Hawthorne, M.D. Third edition. London: Edward Arnold. 1912. (6s. net.)

Guide to Promotion, for Non-Commissioned Officers and Men of the R. A. M. Corps. Compiled by Captain S. T. Beggs, M.B., M.D. London: Gall & Polden, Limited. 1912. Third edition. (3s. 6d. net.)

A Manual of Immunity for Students and Practitioners, by Elizabeth T. Fraser, M.D.Glasg. Glasgow: James MacLehose & Sons. 1912. (5s. net.)

Diseases of the Throat, Nose, and Ear, for Practitioners and Students, by W. G. Porter, M.B., B.Sc., F.R.C.S.Ed. With 77 illustrations, 44 of which are in colours. Bristol: John Wright & Sons, Limited. 1912. (7s. 6d. net.)

The Prognosis and Treatment of Diseases of the Heart, by R. O. Moon, M.A., M.D.Oxon., F.R.C.P. London: Longmans, Green & Co. 1912. (3s. 6d. net.)

Anæsthetics and their Administration: A Text-Book for Medical and Dental Practitioners and Students, by Sir Frederic W. Hewitt, M.V.O., M.A., M.D.Cantab. Fourth edition. Prepared with the assistance of Henry Robinson, M.A., M.D., B.C.Cantab. With illustrations. London: Macmillan & Co., Limited. 1912. (15s. net.)

Cunningham's Manual of Practical Anatomy, by the late D. J. Cunningham, M.D.Edin. *et* Dubl., D.Sc., LL.D.St. And. *et* Glasg., D.C.L.Oxon., F.R.S., late Professor of Anatomy in the University of Edinburgh. Vol. II: Thorax, Head, and Neck. Fifth edition, revised by Arthur Robinson. With 256 illustrations. London: Henry Frowde, and Hodder & Stoughton. 1912. (10s. 6d. net.)

E. Merck's Annual Report of Recent Advances in Pharmaceutical Chemistry and Therapeutics. Vol. XXV. Darmstadt. 1912. (1s. 6d.)

Health Resorts of the British Islands. Edited by Neville Wood, M.D. With 40 illustrations and 3 maps. London: Henry Frowde and Hodder & Stoughton. 1912. (7s. net.)

Manual of Medicine, by A. S. Woodwork, M.D., M.R.C.P. London: Henry Frowde and Hodder & Stoughton. 1912. (10s. 6d. net.)

The Protein Element in Nutrition, by Major D. M'Cay, M.B., B.Ch., B.A.O., M.R.C.T., I.M.S., Professor of Physiology, Medical College, Calcutta. Illustrated. London: Longmans, Green & Co. 1912. (10s. 6d. net.)

The Carrier Problem in Infectious Diseases, by J. C. G. Ledingham, M.B., D.Sc., and J. A. Arkwright, M.D. London: Longmans, Green & Co. 1912. (12s. 6d. net.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FOUR WEEKS ENDED 14TH DECEMBER, 1912.

	WEEK ENDING			
	Nov. 23.	Nov. 30.	Dec. 7.	Dec. 14.
Mean temperature,	46·1°	36·4°	38·5°	45·9°
Mean range of temperature between highest and lowest,	8·3°	11·7°	14·1°	9·9°
Number of days on which rain fell,	6	3	4	7
Amount of rainfall, ins.	0·57	1·92	0·41	2·12
Deaths registered,	298	308	408	351
Death-rates,	19·8	20·5	27·1	23·3
Zymotic death-rates,	1·4	0·9	1·4	1·1
Pulmonary death-rates,	7·0	6·2	9·2	8·2
DEATHS—				
Under 1 year,	93	77	98	89
60 years and upwards,	64	66	102	93
DEATHS FROM—				
Small-pox,	...	...	...	...
Measles,	1	3	2	...
Scarlet fever,	3	1	2	...
Diphtheria,	6	5	6	1
Whooping-cough,	10	5	11	16
Enteric fever,	...	...	1	...
Cerebro-spinal fever,	...	1	...	...
Diarrhœa (under 2 years of age),	5	4	2	6
Bronchitis, pneumonia, and pleurisy,	98	87	125	101
CASES REPORTED—*				
Small-pox,	...	...	...	...
Cerebro-spinal meningitis,	...	1	1	...
Diphtheria and membranous croup,	50	54	41	44
Erysipelas,	44	49	21	37
Scarlet fever,	111	89	72	82
Typhus fever,	...	...	...	...
Enteric fever,	6	2	5	2
Phthisis,	157	62	54	55
Puerperal fever,	5	...	1	5
Measles,†	168	148	220	158

* Including those in added area.

† Measles not notifiable.

SANITARY CHAMBERS,
GLASGOW, 24*th December*, 1912.

THE

GLASGOW MEDICAL JOURNAL.

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ORIGINAL ARTICLES.

SPORADIC CONGENITAL DEAFNESS AND DEAFNESS FROM SYPHILIS.

By JOHN KERR LOVE, M.D.

In the *Glasgow Medical Journal* for May, 1912, p. 349, the writer published what was essentially a preliminary communication on the subject of syphilis and deafness. The cases dealt with were drawn from the Glasgow Institution for the Education of the Deaf and Dumb, and it was intended that cases from the Day School of the Glasgow School Board should next be dealt with. It was soon found that this separation could not be maintained, because one was constantly being sent from one department of the work to the other for the completion of family records. Indeed, the work became a research on one type of family deafness, and as such it is here presented in the form of a lecture delivered under the auspices of the National Bureau for the General Welfare of the Deaf.

The mystery of the first deaf child in a family, all the members of which have hitherto heard, is the chief subject of this lecture. In the first two lectures I have dealt with deafness which undoubtedly comes after birth, the causes of which are for the most part quite clear, and I have therefore been able to indicate the lines on which efforts towards prevention should proceed. In the next lecture I shall deal with deafness which, whether we understand it or not, is at least to be expected; deafness which, even when the parents both hear, may in some cases be quite safely predicted; deafness which familiarity has robbed of much of its mystery. But in this lecture we have to deal with deafness which comes as a surprise, which is but poorly understood by any of us, and which is therefore mysterious.

If you inquire into the social status of the children attending any school or institution for the deaf, you will find that nearly all the children come from the poorest classes. I made such an inquiry four years ago with regard to the children attending the Glasgow Institution.

Glasgow is a city of nearly a million inhabitants, and the institution there draws its 180 deaf children about equally from the city and the west and north of Scotland. Through the kindness of Mr. Welch, the senior teacher of the Glasgow Institution, and of Mr. Wright, the officer of the School Board of Glasgow, I am able to present information on three points which suggest themselves in thinking of this question.

1. How many apartments are in the houses from which the children of the Glasgow Institution are drawn?
2. How many people occupy these houses.
3. What is the nature of the accommodation in the homes of the children belonging to the Glasgow area proper?

Mr. Wright has visited the home of every deaf child in Glasgow in the gathering of the facts for the answer to the third question.

Mr. Welch found, from enquiries amongst the children, that 5 of the Glasgow children had no home, that 76 had homes. In these 76 homes there were 168 apartments, with 524 inmates, inclusive of 12 lodgers. This gives an average of $2\frac{1}{5}$ apartments to each home of 7 inmates, an average of 3·145 inmates to each apartment, and of about 5 children to each family. As one of the apartments in such small houses is always the kitchen or cooking establishment, I need hardly point out that even after the institution has relieved the home of its deaf children there is dangerous overcrowding for those that are left. Mr. Wright visited 78 homes; 5 of these he found excellent, 7 good, 28 fair, and 38, or about 50 per cent, wretched. In only 12 of these 78 homes has child-life a reasonable chance of remaining healthy and pure. In 38 no deaf or hearing child should be left.

During the four years which have elapsed since these figures were drawn up matters have not improved. It still remains true that nearly all deaf children in our schools and institutions are drawn from the poorest classes. It is difficult to avoid the conclusion that poverty and overcrowding have something to do with the causation of deafness in young children.

The census returns for the City of Glasgow in the year 1911 have just been issued. I take the following figures from the return bearing on the accommodation in the inhabited houses of the city:—

GLASGOW.—PERSONS PER ROOM AT CENSUSES OF 1901 AND 1911.

Size of House.	Persons per Room, 1901.	Persons per Room, 1911.
All Sizes, ...	1·846	1·827
1 Apartment, ...	3·183	3·196
2 Apartments, ...	2·463	2·432
3 ,, ...	1·803	1·734
4 ,, ...	1·332	1·254
5 ,, and upwards, .	0·787	0·761

If you compare these figures with those I have given above you will see that the social status of the families from which the deaf children of Glasgow come is that of the house of one apartment. What does this mean? It means—as Dr. Chalmers,[1] the Medical Officer of Health, has shown in a former document from which I have quoted—a one-apartment standard of living, of air-supply, of food, of clothing, and it results in a dwarfed child. I will show you that it means far more than that. It means untreated syphilitic disease, uncontrolled use of alcohol in many cases, a carelessness in the upbringing of children, and these when added to the other conditions result in an enormously high child death-rate, and in a deaf-mute rate which is never approached in the houses of the well-to-do. Such are the conditions which make for the increase of sporadic congenital or infantile deafness, and although in the institutions the children who are spared may be made fairly good specimens of men and women, the hearing is never recovered. The damage to the organ of hearing takes place before birth, or during the first years of life, and the deafness is permanent.

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[1] Chalmers, "Inquiry into the Physique of Glasgow School Children."

This is true of all classes of deafness in young children unless, perhaps, the cases of true hereditary deafness. It is certainly true of acquired deafness. I do not require to argue here the question with regard to scarlet fever, measles, and meningitis. All of these diseases are more fatal, and more commonly cause deafness when they occur amongst the badly nourished children of the poor, when they are not properly attended to medically and surgically, and when they have to be treated in the overcrowded parts of large cities.

Associated with poverty and overcrowding is parental neglect. Here is an instance which I hope is not common. Three years ago, two children suffering from whooping-cough were removed from Stobhill, which is a poorhouse or workhouse, to Ruchill, which is an infectious diseases hospital. On recovery, one was sent to the Royal Infirmary because there was some ear discharge, and because it was a deaf and dumb child. Soon the discharge ceased, but the child remained deaf. The child became a favourite in the ward, but after two months I began to make proposals for her removal to an institution for the deaf. Nothing, however, was done till the end of the third month. During the whole of these three months the mother was a regular visitor to the child. About this time the father became interested enough in the child to pay a visit to the ward. His exclamation was: "That's no my wean at all," and it turned out to be so. For three months this woman did not know her own child from another. The whole of this family was being boarded and educated by the parochial authorities. The duties of the parents ceased with the birth of their children.

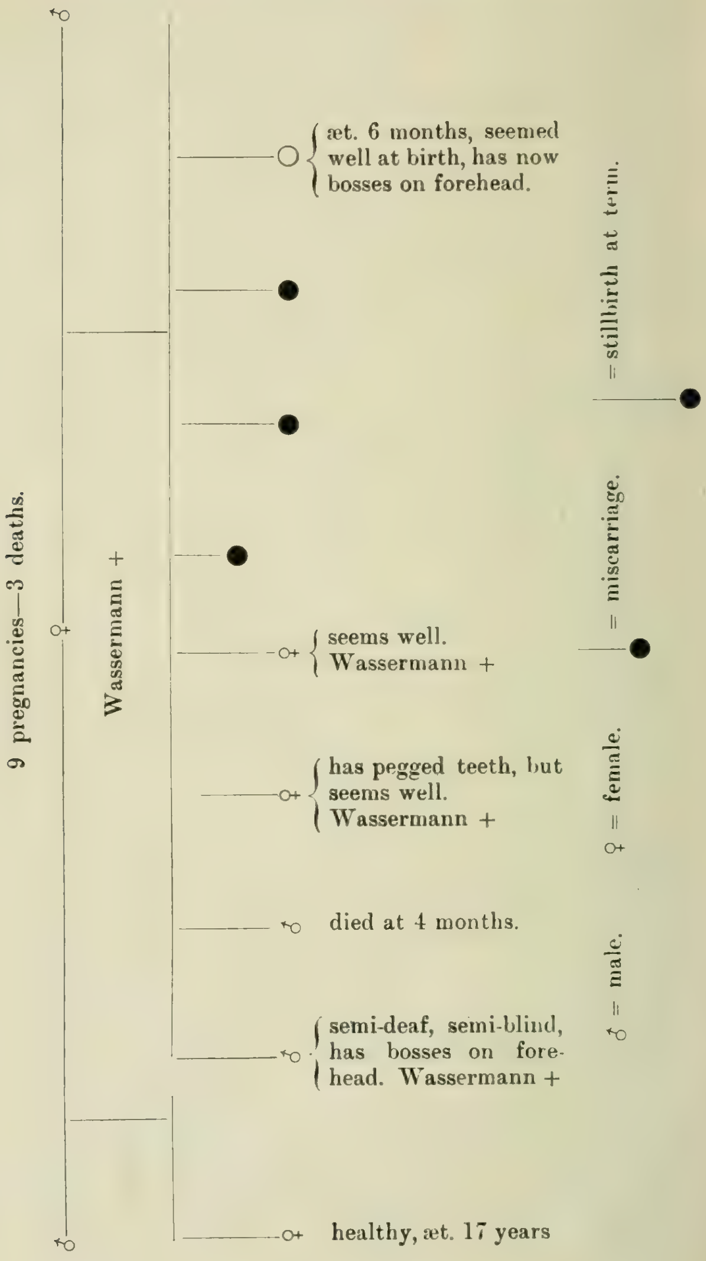
The difficulty is increased rather than diminished when we find that the children of the very poor are at birth physically equal to the children of the well-to-do. Last year the writer made observations on this point at the Glasgow Maternity Hospital. He found that the average weight of the children born in this hospital, which received the poorest mothers in Glasgow, was 7·1 lb. The average weight for a healthy child is 7 lb.

We are therefore driven to the conclusion that the children of the poor are well born. It is true that some of them have in their blood a poison which will express itself by death and deafness a little later in life, but it is equally true that this poison need not so express itself. The poison is present amongst the well-to-do, and seldom causes either death or deafness there. The disastrous results are due to the conditions of poverty, overcrowding, and neglect, which are inseparable from the lot of the children of the poor in the cities of this country.

If deafness is to be prevented, there must be decent and healthy conditions for the children of the poor during the first years of life. Like a plant, or any young animal, they must have room to grow, they must have simple, clean, free conditions of life. This is the first step for the prevention of infantile or sporadic congenital deafness.

But we must look for specific causes for the appearance of the deaf-born child, or for something which is commonly added to poverty and overcrowding, and the first cause I notice is congenital syphilis. Syphilis is an instructive disease in this connection. It is probably the only disease which causes deafness in both parent and child, the only disease which operates before and after birth. It, therefore, forms a kind of link between congenital and acquired deafness, for it certainly causes deafness, which comes on in the child as late as the second and even the third decade of life. A study of syphilis and deafness cannot fail to be interesting, and may throw some light on the etiology of congenital deafness. We have here nothing to do with primary syphilis, or indeed with any form of syphilis in the parent. What we have to do with here is the disease as it expresses itself in the child of the affected parent. As it thus manifests itself, syphilis is an infectious disease, due to the entrance into the blood of the parent of a micro-organism called the spirochæte pallida, and which expresses itself in the children in a variety of ways, and by a variety of symptoms, one of which is deafness. It has long been known that congenital syphilis caused a very striking combination of symptoms—deafness and blindness in young people. This was known long before the spirochæte was discovered. Recently a bio-chemical test for the poison of syphilis has been given us. This is the Wassermann reaction. In the following family trees the indication for applying the Wassermann test was usually the appearance of deafness or blindness or both in a child or young person, 5 to 20 years of age. Wherever possible, the test was applied to the brothers and sisters of the affected person and to the mother.

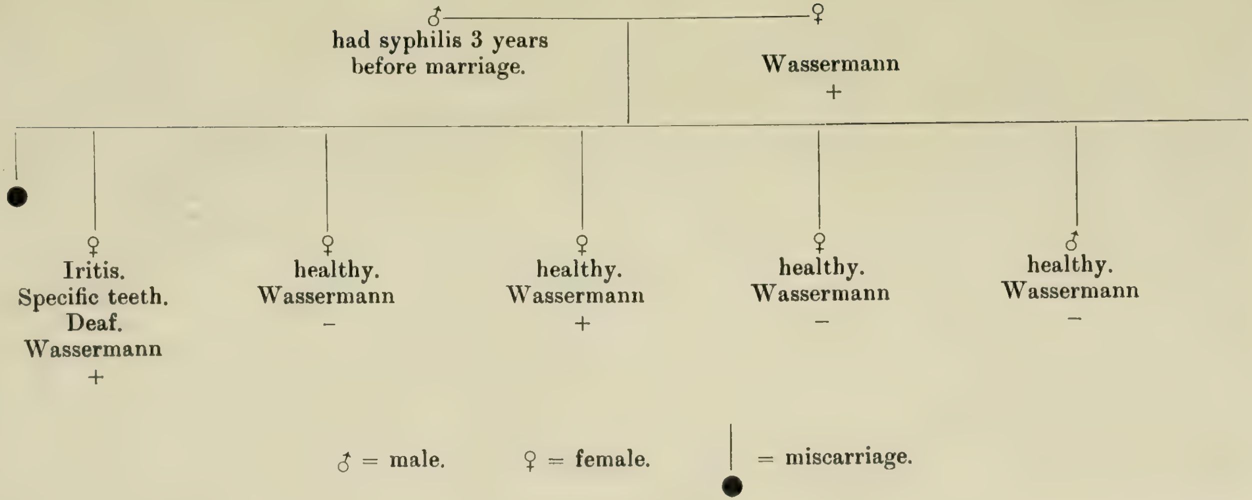
Tree 1. K— Family.


9 pregnancies—3 deaths.
Wassermann +
æt. 6 months, seemed well at birth, has now bosses on forehead.
seems well. Wassermann +
has pegged teeth, but seems well. Wassermann +
died at 4 months.
semi-deaf, semi-blind, has bosses on forehead. Wassermann +
healthy, æt. 17 years
♂ = male.
♀ = female.
● = miscarriage.
● = stillbirth at term.

Tree 2.

MAC— FAMILY.

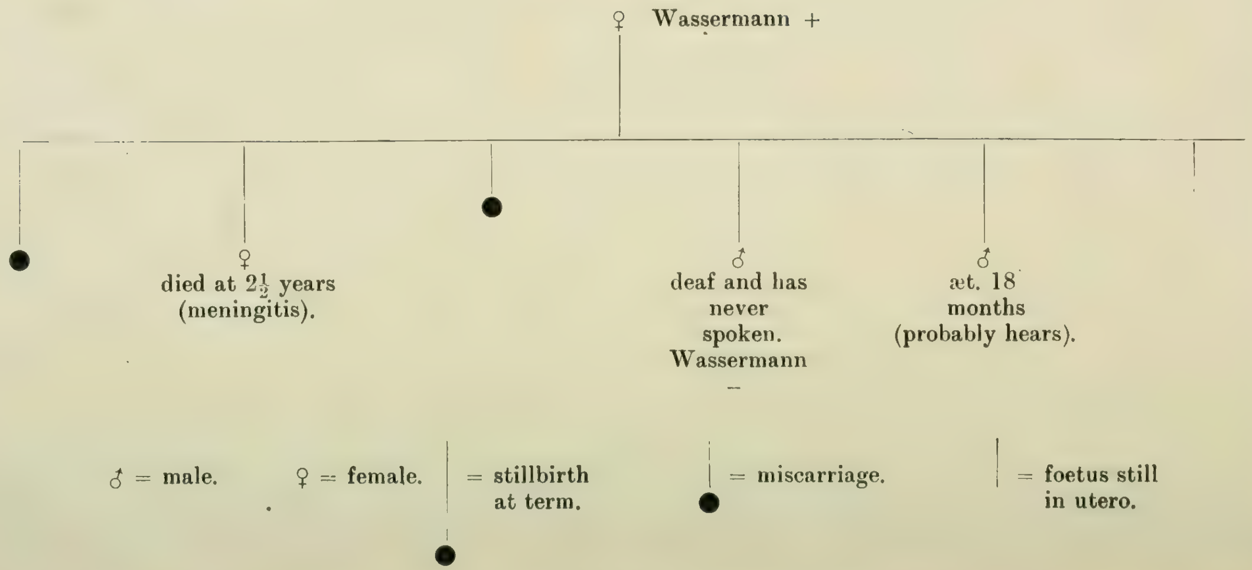
6 pregnancies—1 death.



Tree 3.

G— FAMILY.

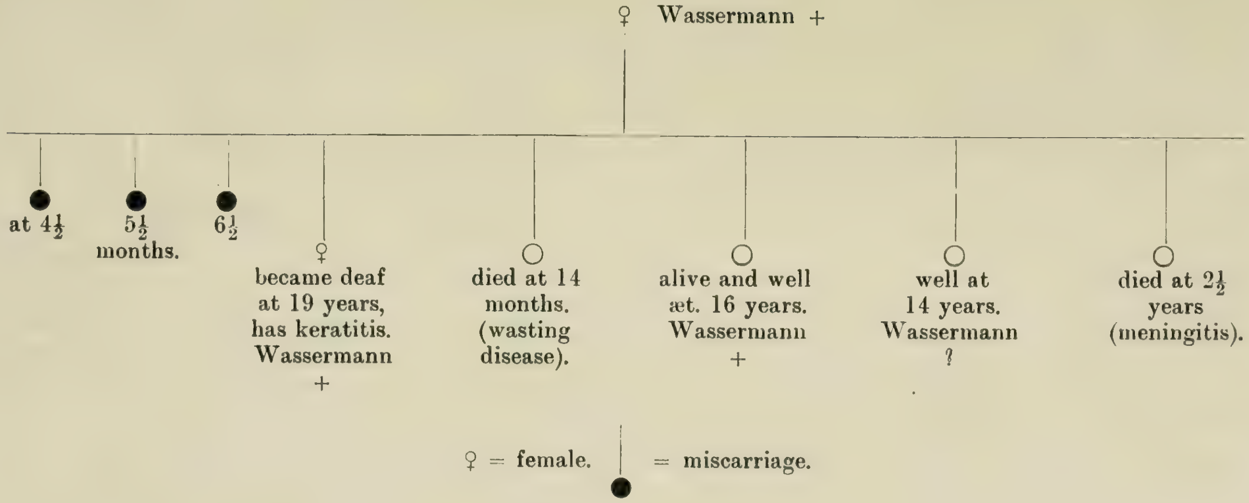
5 pregnancies—3 deaths.


♀ Wassermann +
♀ died at 2½ years (meningitis).
♂ deaf and has never spoken. Wassermann –
♂ æt. 18 months (probably hears).
♂ = male.
♀ = female.
= stillbirth at term.
= miscarriage.
= foetus still in utero.

Tree 4.

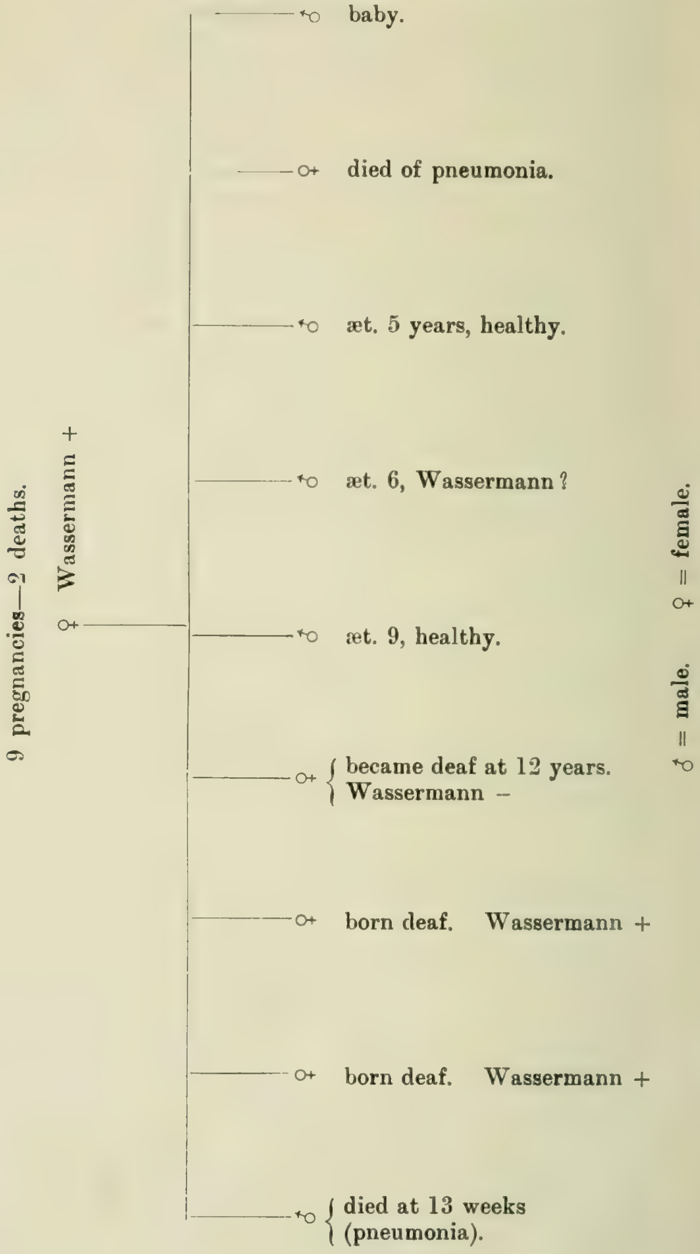
G—S FAMLIY.

8 pregnancies—5 deaths.


♀ Wassermann +
at 4½
5½ months.
6½
♀ became deaf at 19 years, has keratitis. Wassermann +
died at 14 months. (wasting disease).
alive and well æt. 16 years. Wassermann +
well at 14 years. Wassermann ?
died at 2½ years (meningitis).
♀ = female.
= miscarriage.

Tree 5.

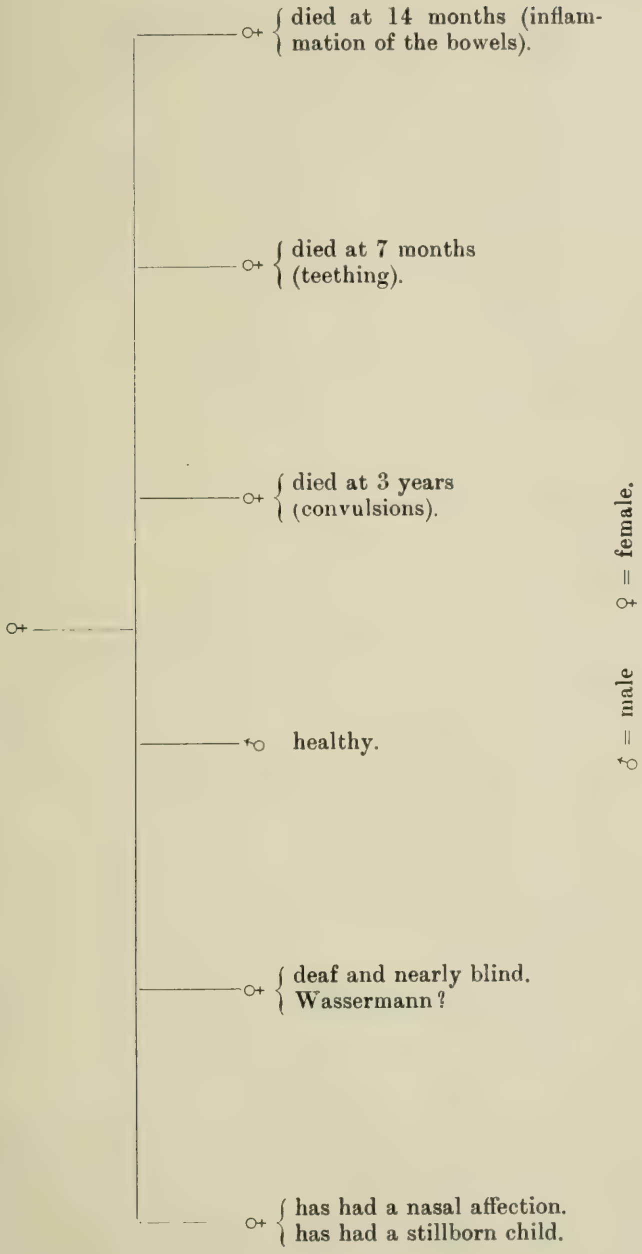
D— FAMILY.



Tree 6.

A— Family.

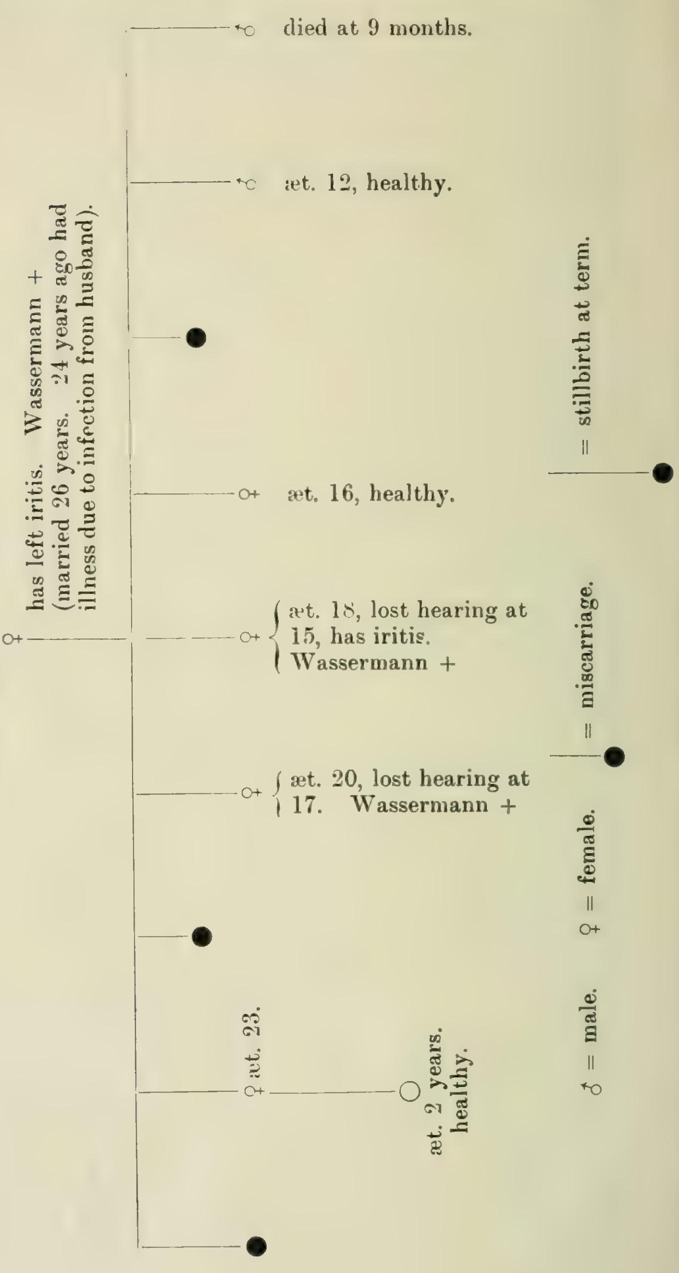
6 pregnancies—3 deaths.


♀ { died at 14 months (inflammation of the bowels).
♀ { died at 7 months (teething).
♀ { died at 3 years (convulsions).
♀
♂ healthy.
♀ { deaf and nearly blind. Wassermann ?
♀ { has had a nasal affection. has had a stillborn child.
♂ = male ♀ = female.

Tree 7.

K—D FAMILY.

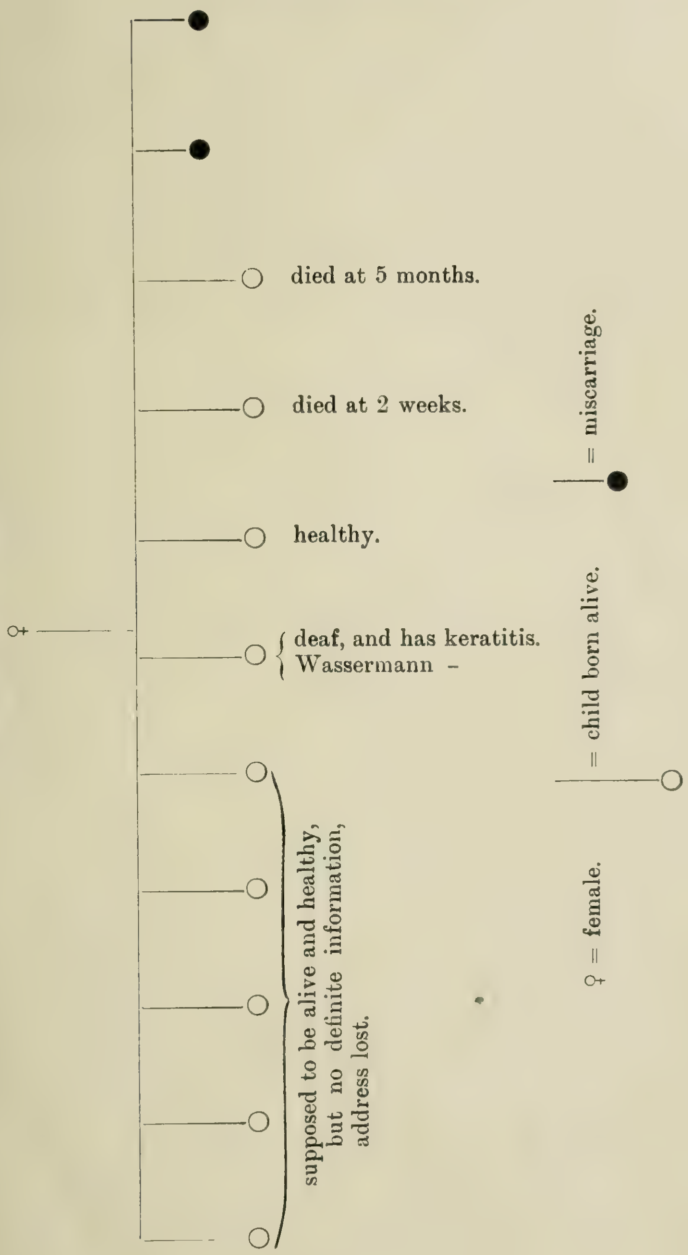
9 pregnancies—4 deaths.

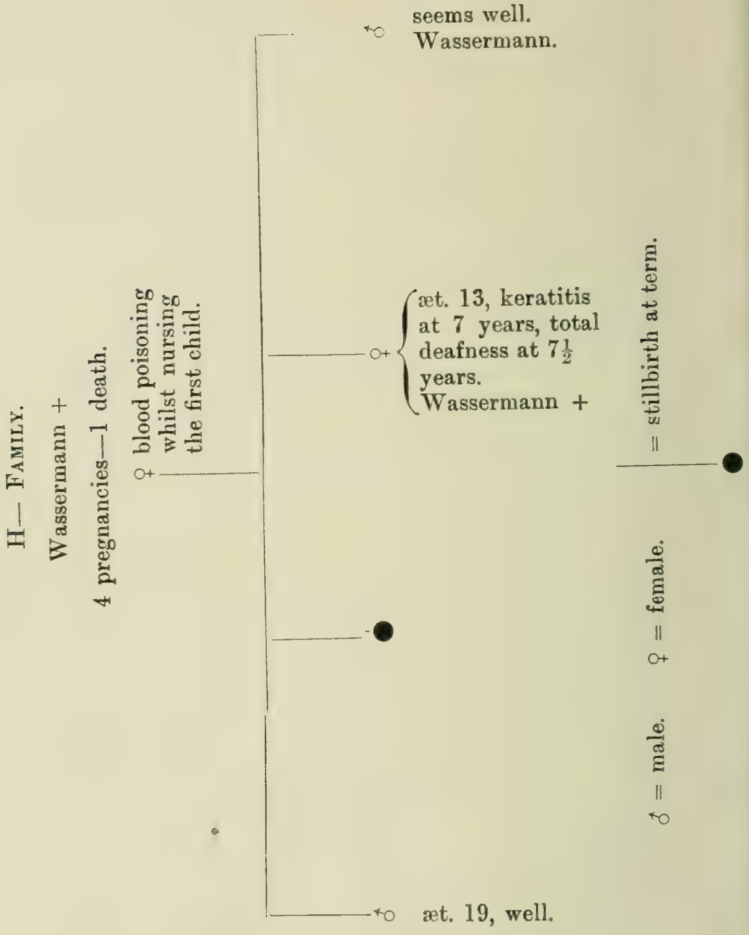

♀ has left iritis. Wassermann +
(married 26 years. 24 years ago had
illness due to infection from husband).
♂ died at 9 months.
♂ æt. 12, healthy.
♀ æt. 16, healthy.
♀ æt. 18, lost hearing at 15, has iritis. Wassermann +
♀ æt. 20, lost hearing at 17. Wassermann +
♀ æt. 23.
æt. 2 years. healthy.
♂ = male. ♀ = female.
● = miscarriage.
● = stillbirth at term.

Tree 8.

L— FAMILY.

11 pregnancies—4 deaths.




H— FAMILY.
Wassermann +
4 pregnancies—1 death.
♀ blood poisoning whilst nursing the first child.
♂ æt. 19, well.
♀ æt. 13, keratitis at 7 years, total deafness at 7½ years. Wassermann +
♂ seems well. Wassermann.
♂ = male.
♀ = female.
● = stillbirth at term.

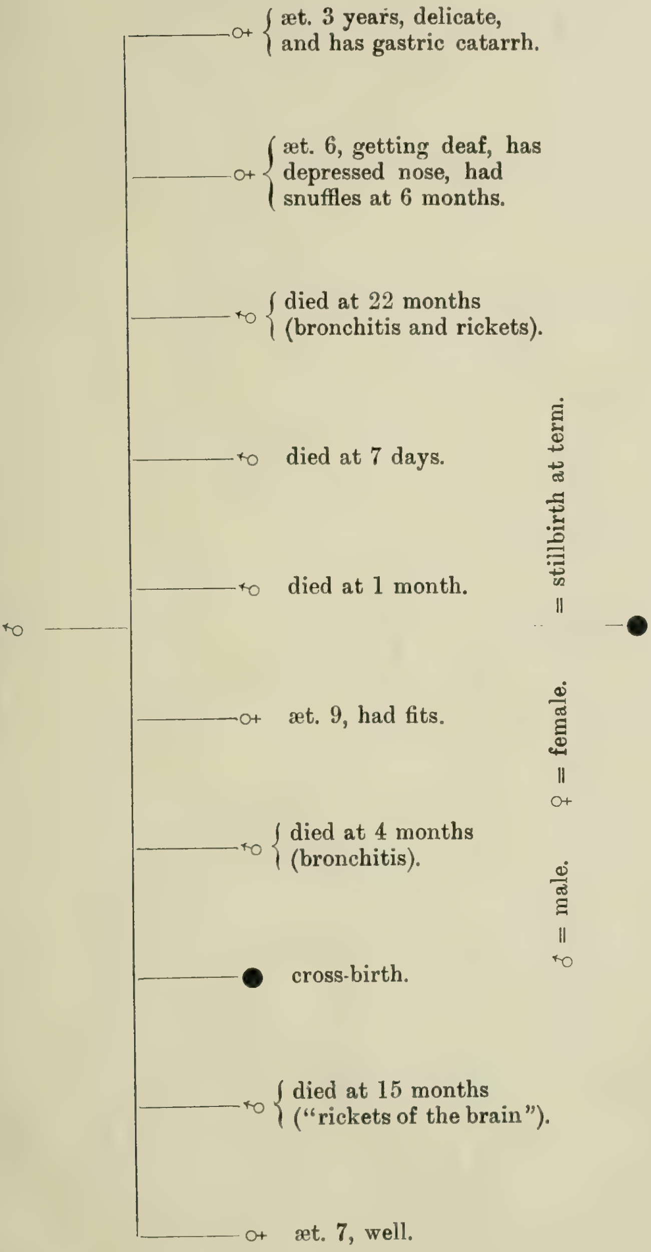
Tree 9.

Tree 10.

S—R Family.

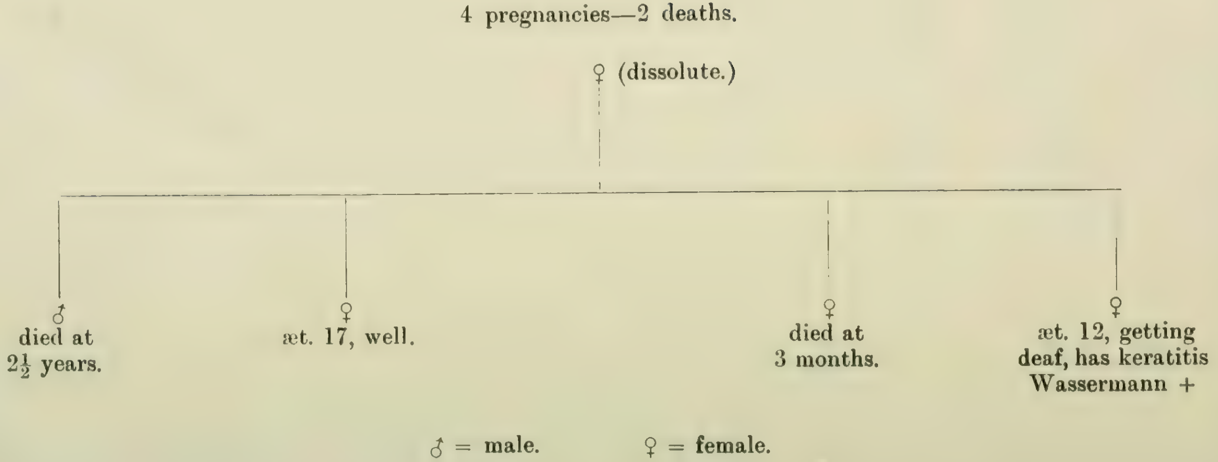
Wassermann test refused.

10 pregnancies—6 deaths.


♂
♀ æt. 3 years, delicate, and has gastric catarrh.
♀ æt. 6, getting deaf, has depressed nose, had snuffles at 6 months.
♂ died at 22 months (bronchitis and rickets).
♂ died at 7 days.
♂ died at 1 month.
♀ æt. 9, had fits.
♂ died at 4 months (bronchitis).
● cross-birth.
♂ died at 15 months ("rickets of the brain").
♀ æt. 7, well.
♂ = male. ♀ = female. ● = stillbirth at term.

Tree 11.

McM— Family.

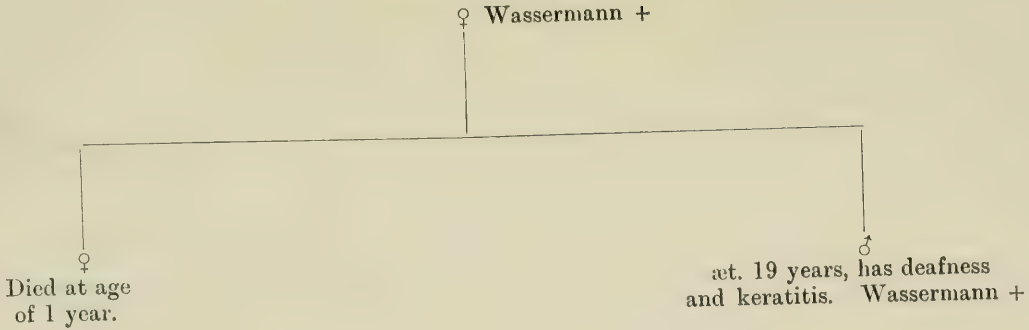


Tree 12.

G—Y FAMILY.

(Husband died 3 months after birth of second child.)

2 pregnancies—1 death.



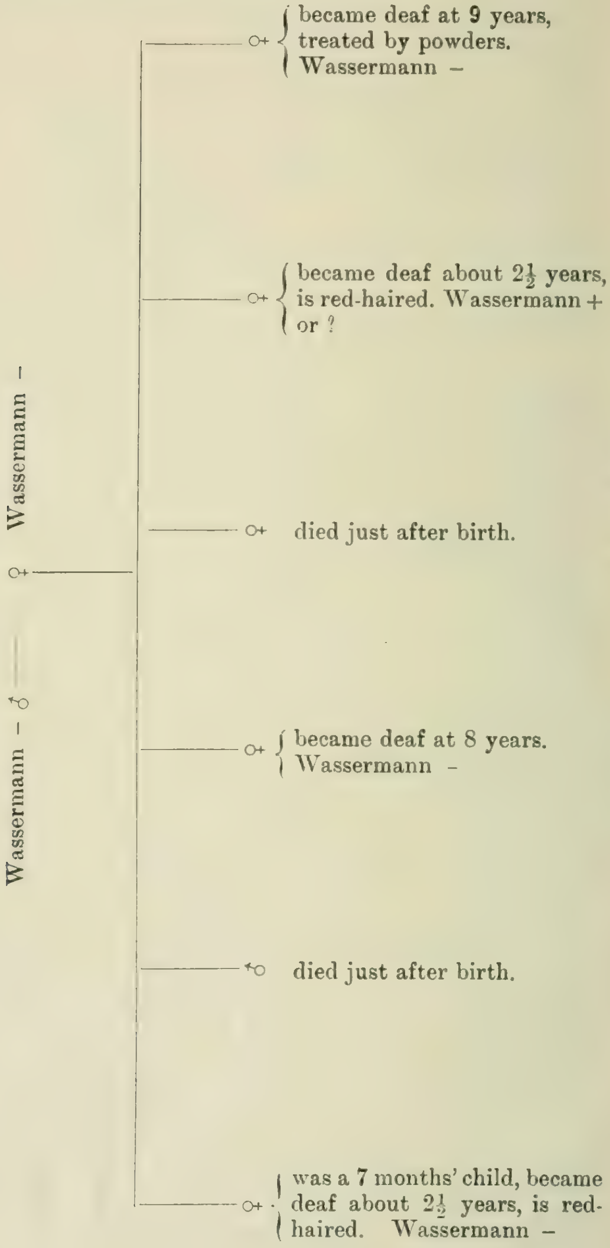
♂ = male.

♀ = female.

Tree 13.

S— FAMILY.

6 pregnancies—2 deaths.



Wassermann – ♂ —— ♀ Wassermann –

♀ became deaf at 9 years, treated by powders. Wassermann –

♀ became deaf about 2½ years, is red-haired. Wassermann + or ?

♀ died just after birth.

♀ became deaf at 8 years. Wassermann –

♂ died just after birth.

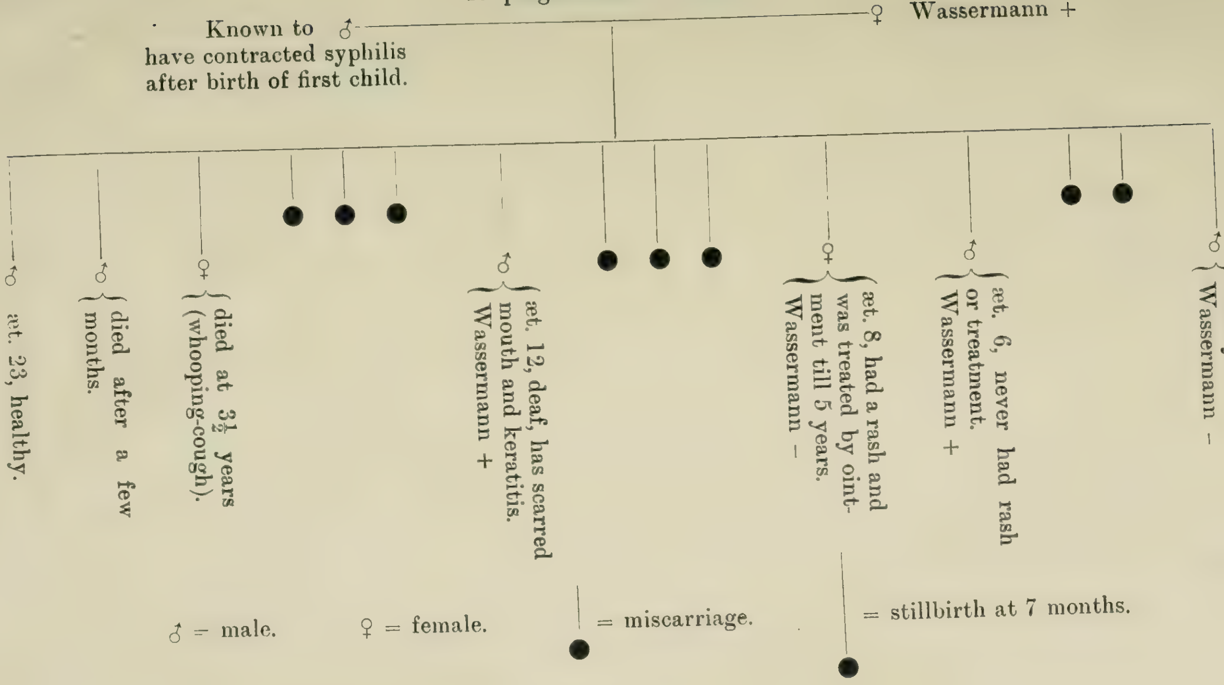
♀ was a 7 months' child, became deaf about 2½ years, is red-haired. Wassermann –

♂ = male. ♀ = female.

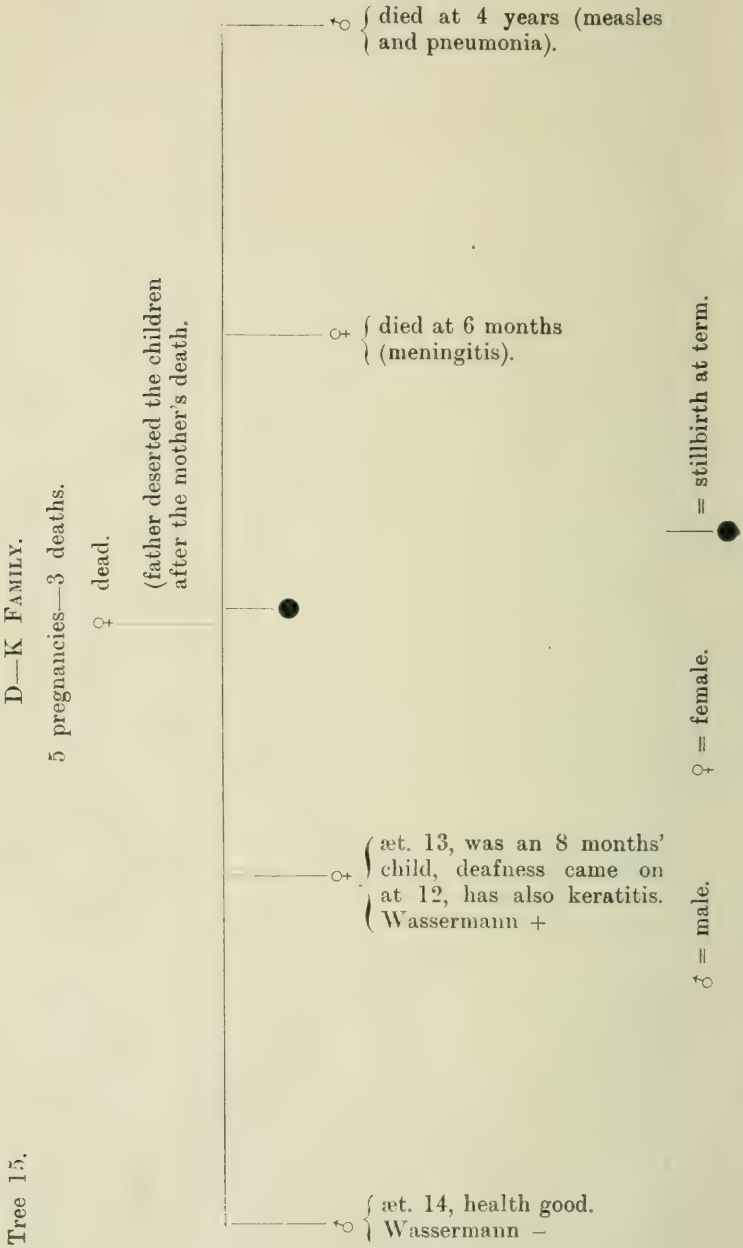
Tree 14.

G—M Family.

15 pregnancies—8 deaths.


Known to ♂ have contracted syphilis after birth of first child.
♀ Wassermann +
♂ healthy. Wassermann −
♂ æt. 6, never had rash or treatment. Wassermann +
♀ æt. 8, had a rash and was treated by ointment till 5 years. Wassermann −
♂ æt. 12, deaf, has scarred mouth and keratitis. Wassermann +
♀ died at 3½ years (whooping-cough).
♂ died after a few months.
♂ æt. 23, healthy.
♂ = male.
♀ = female.
= miscarriage.
= stillbirth at 7 months.

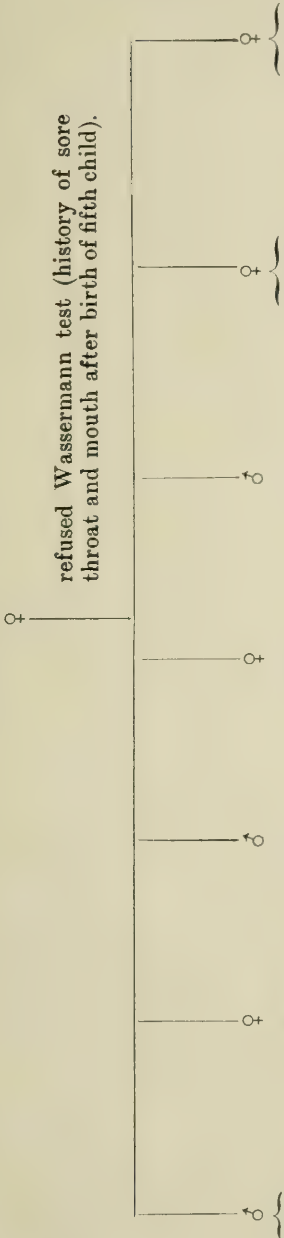
Tree 15.


D—K Family.
5 pregnancies—3 deaths.
♀ dead.
(father deserted the children after the mother's death.
♂ died at 4 years (measles and pneumonia).
♀ died at 6 months (meningitis).
●
♀ æt. 13, was an 8 months' child, deafness came on at 12, has also keratitis. Wassermann +
♂ æt. 14, health good. Wassermann −
● = stillbirth at term.
♀ = female.
♂ = male.

Tree 16.

McN— Family.

7 pregnancies—1 death.



♀ refused Wassermann test (history of sore throat and mouth after birth of fifth child).

♀ æt. 14, getting deaf, eyes unaffected. Wassermann test refused.

♀ æt. 15, eyes unaffected, became deaf at 13. Wassermann +

♂ æt. 21, well.

♀ æt. 23, well.

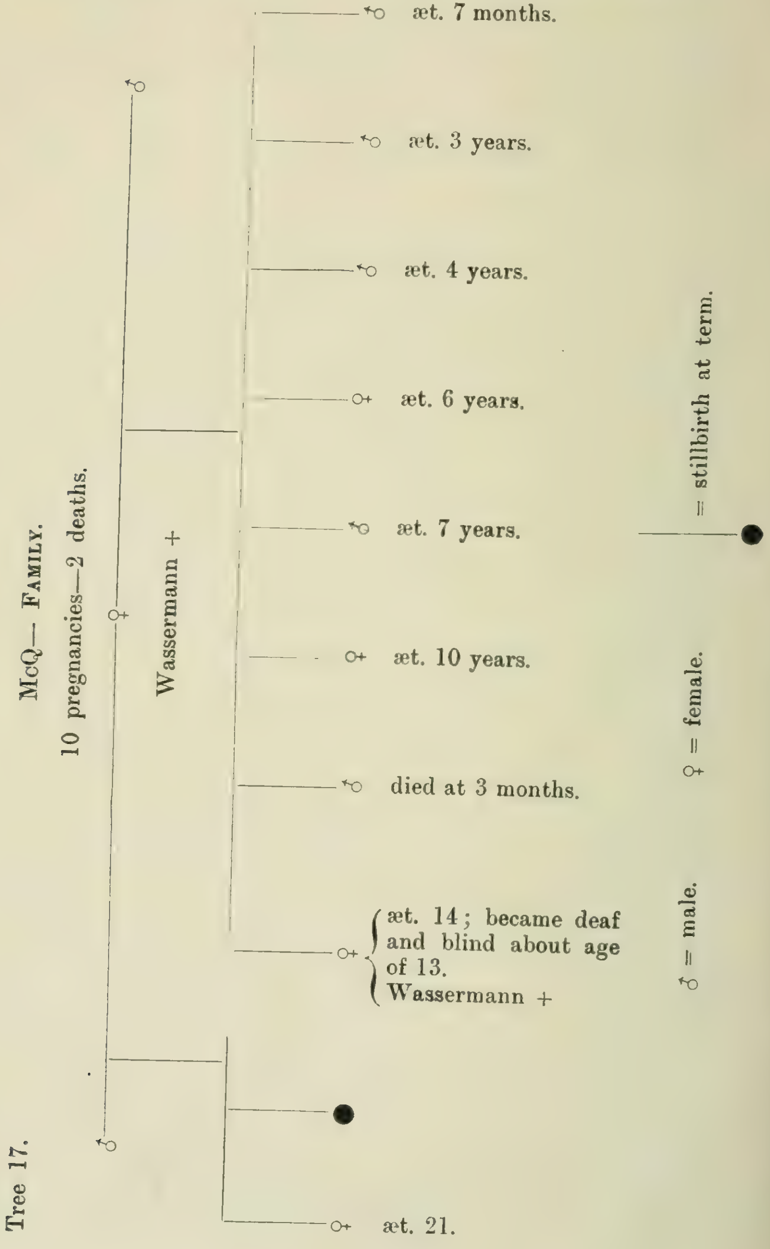
♂ died at 1 year (scarlet fever).

♀ æt. 28, well.

♂ æt. 30, well; has two children, both healthy.

♀ = female.

♂ = male.



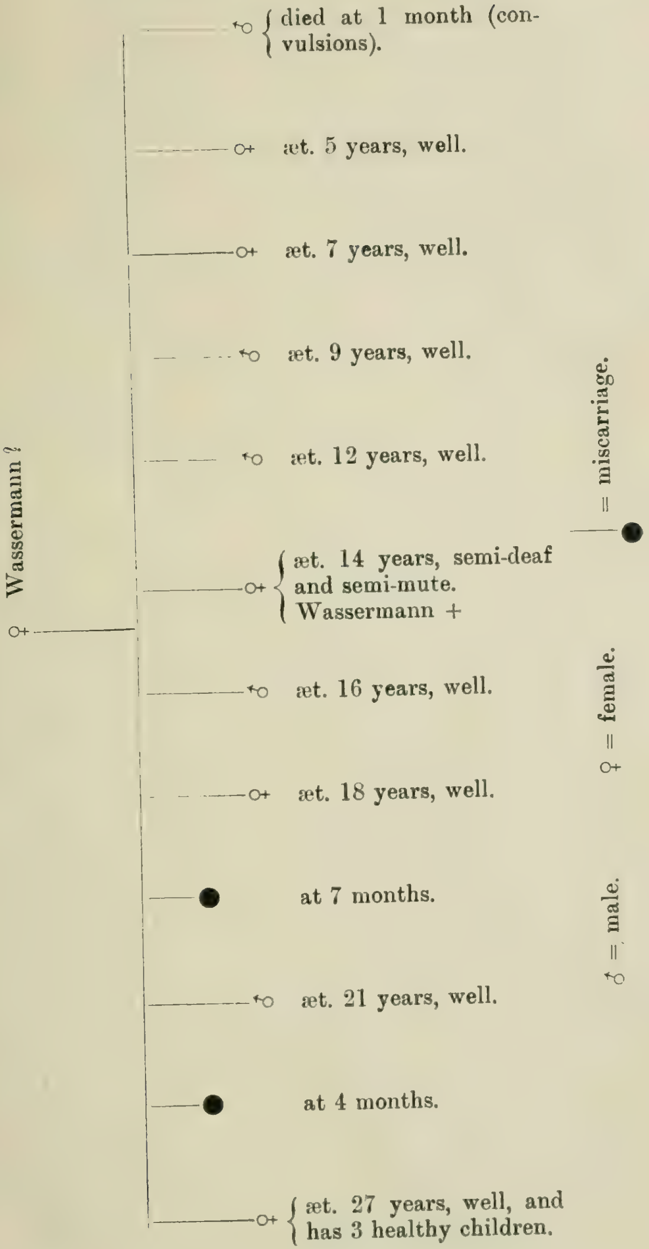
Tree 17.

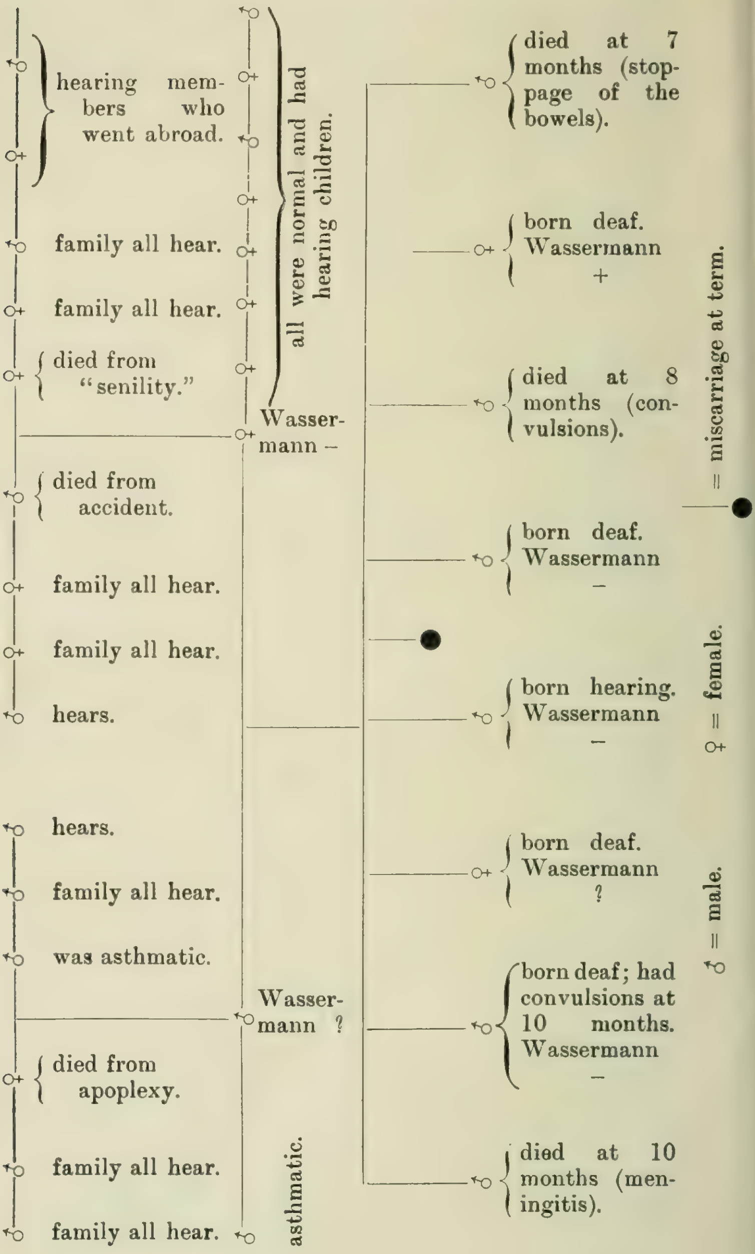
McQ— FAMILY.

Tree 18.

C—M Family.

12 pregnancies—3 deaths.





Tree 19.

S—R Family.

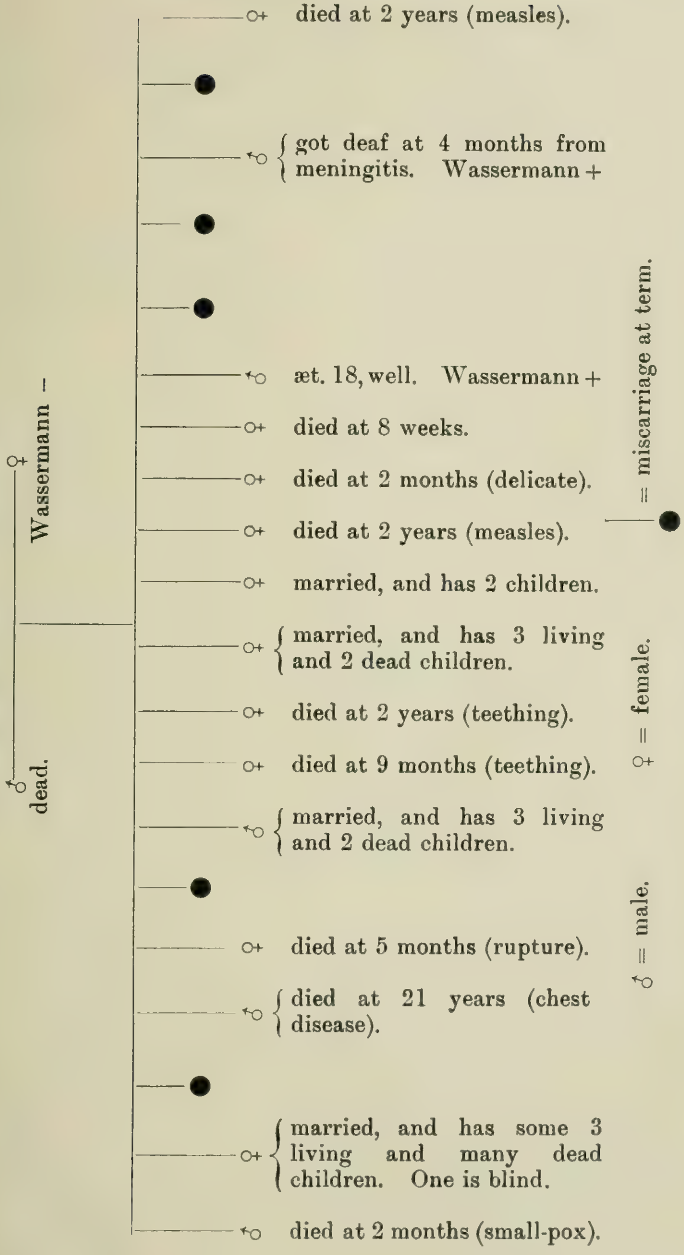
9 pregnancies—4 deaths.

Tree 20.

M—D FAMILY.

20 pregnancies—14 deaths.
(father and mother were cousins.)

♂ dead. ♀ Wassermann −



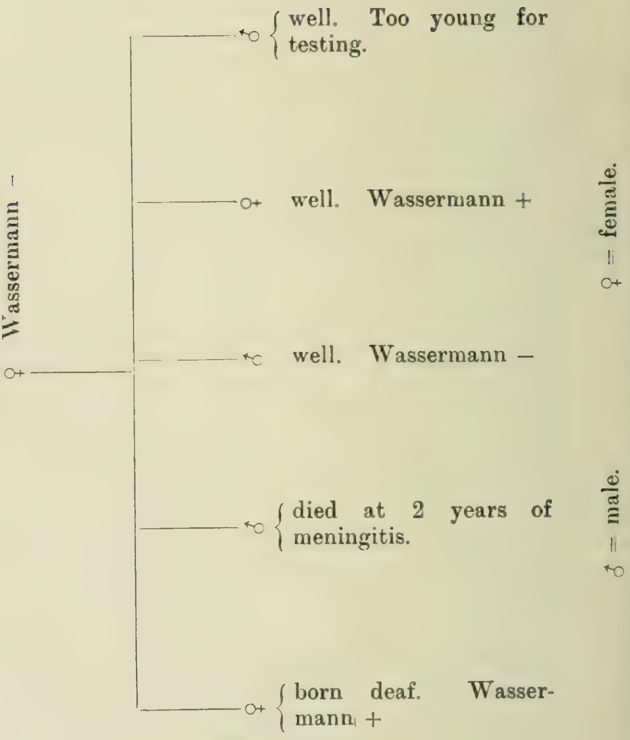
- ♀ died at 2 years (measles).
- ●
- ♂ got deaf at 4 months from meningitis. Wassermann +
- ●
- ●
- ♂ æt. 18, well. Wassermann +
- ♀ died at 8 weeks.
- ♀ died at 2 months (delicate).
- ♀ died at 2 years (measles).
- ♀ married, and has 2 children.
- ♀ married, and has 3 living and 2 dead children.
- ♀ died at 2 years (teething).
- ♀ died at 9 months (teething).
- ♂ married, and has 3 living and 2 dead children.
- ●
- ♀ died at 5 months (rupture).
- ♂ died at 21 years (chest disease).
- ●
- ♀ married, and has some 3 living and many dead children. One is blind.
- ♂ died at 2 months (small-pox).

♂ = male.
♀ = female.
● = miscarriage at term.

Tree 21.

D—H Family.

5 pregnancies—1 death.


♀ Wassermann −
♂ well. Too young for testing.
♀ well. Wassermann +
♂ well. Wassermann −
♂ died at 2 years of meningitis.
♀ born deaf. Wassermann +
♀ = female.
♂ = male.

SYNOPSIS OF SYPHILITIC FAMILIES.

No.	Name.	Pregnancies.	Living.	Dead.	Deaf and Blind.	Wassermann Test.	Deafness.
1	K— Family, .	9	5	4	1	+	Acquired.
2	Mac— Family, .	6	5	1	1	+	Acquired.
3	G— Family, .	5	3	2	1	+	Congenital.
4	G—S Family, .	8	3	5	1	+	Acquired.
5	D— Family, .	9	7	2	3	+	Congenital or acquired.
6	A— Family, .	6	3	3	1	?	Acquired.
7	K—D Family, .	9	5	4	2	+	Acquired.
8	L— Family, .	11	7	4	1	?	Acquired.
9	H— Family, .	4	3	1	1	+	Acquired.
10	S—R Family, .	10	4	6	1	Refused.	Acquired.
11	McM— Family,	4	2	2	1	+	Acquired.
12	G—Y Family, .	2	1	1	1	+	Acquired.
13	S— Family, .	6	4	2	4	+ weak.	Acquired.
14	G—M Family, .	15	5	10	1	+	Acquired.
15	D—K Family, .	5	2	3	1	+	Acquired.
16	McN— Family,	7	6	1	2	+	Acquired.
17	McQ— Family,	10	8	2	1	+	Acquired.
18	C— Family, .	12	9	3	1	+	Acquired.
19	S—T Family, .	9	5	4	4	+	Congenital.
20	M—D Family, .	20	6	14	1	+	Congenital or acquired.
21	D—H Family, .	5	4	1	1	+	Congenital.
		172	97	75	31		
			172		106		

In many of the families the Wassermann test has been carried out in every living child, and, wherever possible, the mother has been included. In one or two cases the blood of the father has also been tested. In some families, because the members are scattered, a complete Wassermann test has been impossible, and in some the same result has been due to refusal to have the test applied; but in no case is the diagnosis of syphilis in any doubt.

The preceding family trees surely form a remarkable group. In 21 families there are 172 pregnancies; there are 30 miscarriages or stillborn children; including these there are 75 deaths, nearly all in the first or second years, and in addition to these there are 31 deaf, or deaf and blind children. There remain 66 living children, of whom many are known to have been born before the poison entered the parental blood. As a rule, I have called the 66 living children healthy, but by this term I mean only that they are not blind or deaf. Many of them are not healthy, and more will become unhealthy because the poison has been shown to be in their blood. Nearly two-thirds of the children born are dead, or, if they are alive, are either deaf or blind or both (106 in 172), and, with a few exceptions, there are no adults in the families. In many of the families one or more deaths from meningitis have occurred.

(*To be continued.*)

ON ASEPTIC, ANTISEPTIC, AND PROPHYLACTIC MEASURES IN OPHTHALMIC SURGERY: OBSERVATIONS MADE IN VARIOUS BRITISH AND CONTINENTAL HOSPITALS.[1]

By ERNEST THOMSON, M.A., M.D., F.R.F.P.S.,
Surgeon, Glasgow Eye Infirmary; Consulting Ophthalmic Surgeon, Glasgow Maternity Hospital.

Introductory.

Having been in special practice in Glasgow for, at anyrate, the better part of twenty years, I recently took the somewhat momentous step of making a prolonged visit to a number of British and Continental eye hospitals. This kind of "study leave," while common enough in America, and granted to our own army medical officers, is not yet sufficiently appreciated either by ourselves, by the private practitioners in this country, or by our patients. The risk of dropping the bone for the shadow weighs heavily upon us, whereas our American and Colonial brethren are sure of a greatly increased *clientèle* when they return to their own place after such study leave.

Among the very many things which interested me, in watching the daily work of other men, operative work naturally occupied a large place.

The various technicalities of ophthalmic surgery are, perhaps, more suited for special than for general medical literature, and, indeed, these have been taken up in some detail by me in the columns of *The Ophthalmoscope;* yet I have ventured to think that the general aseptic, antiseptic, and prophylactic technique, which varies to an astonishing degree with various operators, might prove interesting to a wider circle of readers.

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[1] Read at a meeting of the Glasgow Southern Medical Society held on 9th January, 1913.

INVESTIGATION AND PREPARATION OF THE FIELD OF OPERATION.

In the first place, it must be remarked that operations on the eyeball are carried out in a field which, while not necessarily containing what are usually called pyogenic organisms, is none the less always suspect; and which, even if it be sterile in respect of such organisms at the time of operation, may not remain so. Further, as everyone is aware, strong antiseptics are out of the question as a means of rendering the field sterile, or keeping it so.

It is the desire of all operators to operate only in a field from which the risk of sepsis has been removed as far as possible, but the degree of risk which each is prepared to take seems to be rather variable.

I may assume it to be a matter of common agreement that the organisms most to be feared in operations on the eyeball itself are the pneumococcus, streptococci, and the staphylococcus aureus, and also that the virulence of the first-named —and probably most important—organism in this connection is very variable indeed.

This constant liability of the conjunctiva to harbour dangerous organisms of variable virulence, and to retain them in spite of every form of antiseptic which can safely be used, seems to have led to the evolution of two types of operator. One is the surgeon who will not operate until he has satisfied himself that the field is as sterile as it can be made. The other is the surgeon who, satisfied with the absence of actual conjunctivitis, trusts to the removal by flushing or the inhibition by antiseptics of such germs as may be present, and operates without making any systematic investigation of the conjunctival flora. These are the two extreme types, and between them are many operators who do not go to one or the other extreme. Assuming that the operators are of equal merit, I am unable to say with any approach to certainty whether the results of the one or the other method of procedure with regard to this prophylactic examination of the conjunctiva may be considered outstandingly the better. Only a much more prolonged observation of the various types than it was possible for me to give would enable the point to be decided at first hand. Published statistics appeal to me in a minor degree only.

The question, however, whether this or that amount of care in the examination of the conjunctiva gives the greatest freedom from sepsis does not seem to be the whole question. As one would naturally expect, the same operator who holds it wrong to operate until he has made as sure of his ground as possible by bacteriological investigation, and by prolonged treatment if necessary, is likely to carry out the principle of asepsis in general to a higher degree than the other. Therefore, one is justified in thinking that the first class of operator—he who will rather blame his own technique for a bad result than admit that he operated in a risky field—deserves to have better results than the other, because the habit of taking exceeding care in the matter of the conjunctival field inculcates exceeding care in other respects.

I shall consider now some details of the *investigation* of the field of operation. Here, as anticipated above, we shall find the widest differences between the practices of different operators.

We shall travel first, in the spirit, to the clinique of Professor Fuchs, in Vienna, where a man of world-wide reputation is working under what can only be described as septic surroundings. The operating room is situate in the midst of the out-patient department. It is as if we at the Glasgow Eye Infirmary were to carry out our major operations in the room off the consulting room, with sundry patients looking on should the door happen to be open. People walk in and out all the time: not only post-graduate students who appear to regard the place as got up entirely for their benefit, but also others on more or less official duty. The operator, no matter whether the chief or an assistant, does not seem to notice the interruptions, which, at anyrate when an assistant is operating, become wellnigh intolerable. They would certainly be so to me.

In this very large and justly famous clinique, what prophylactic measures are adopted? The conjunctival flora is investigated, it is true; but if, to the experienced eye of the operator, the conjunctiva *looks* healthy, the result of the investigation is not waited for. The operation is proceeded with. If there is conjunctivitis the operation is postponed until the question has been gone into as to the organisms present, and until the conjunctivitis is cured. If there is lacrimal disease the lacrimal sac is excised, and time thereafter is given for the disappearance of the organisms from the conjunctiva. It is said at this clinique that the turnover of operations is so immense that to carry out a more systematic prophylactic examination in every case would be impracticable.

Let me transport you next to another Austrian clinique, that of Prague. I cannot say whether the ultimate results obtained by Elschnig in Prague are better than those of Fuchs or not. That is too difficult a question. At any rate, in Elschnig's clinique we have aseptic principles carried to their highest point, so far as my observations went.

In cataract cases certainly, and to the best of my belief in all operations in which the globe is opened, a particularly careful bacteriological examination is made by means of Elschnig's culture medium. If a smear from the culture shows pneumococci or streptococci, the operation is postponed and the conjunctiva is treated with hourly applications of 1 in 5,000 oxycyanide of mercury solution until the pneumococci or streptococci have disappeared. If staphylococci are present in the smear made from the culture, it is necessary to know the variety. With a view to this, an agar culture has been made at the same time as that on the special medium. In the presence of staphylococcus albus the operation is proceeded with, but if aureus or citreus be present it is postponed. In the event of the postponement of the operation on account of any of the above-mentioned organisms, the lacrimal passages are also washed out with the oxycyanide solution once daily. After four or five days of such oxycyanide treatment of the conjunctiva and lacrimal passages another examination is made, no cyanide being used on that day. If, after a fortnight, the organisms have not disappeared, the operation is usually performed, with special precautions.

Elschnig's medium, upon which in Prague the utmost reliance is placed for the detection of the pneumococcus, is a fluid medium composed of one part of horse serum and three parts of bouillon without peptone. In Axenfeld's clinique in Freiburg the pneumococcus was found in no less than 38 per cent of normal eyes by means of this medium.

To summarise this subject of the prophylactic examination of the conjunctiva, many operators believe in the rigid carrying out of the Elschnig technique, many more are content to examine a smear, to use some of the ordinary culture media, or, on the other hand, to be guided largely by the appearance of the conjunctiva as to whether the eye is fit for operation or not. In the long run one is bound to have cases that can never be free of organisms, and cases which are absolutely urgent—cases, that is, in which a risk must be accepted or the patient must become blind from the disease.

Lastly, Axenfeld, while he is no great believer in the use of sera and vaccines—other than tuberculin and anti-diphtheritic serum—thinks that the pre-operative injection of anti-pneumococcic serum is of some value in cases where operation must be undertaken in presence of conjunctival pneumococci.

I may now pass on to the consideration of the *preparation* of the field of operation. In Germany, Austria, and Switzerland the details of this, so far as they came under my observation, differ less than do those regarding the prophylactic examination of the conjunctiva which we have just considered. The usual method consists in first rubbing the surrounding skin with benzine on a cotton swab and afterwards washing it with a fluid alcoholic neutral soap made by Güde, of Leipzig.

This is done by the surgeon or the assistant when the patient is on the table, not, as is usual in this country, by the nurse beforehand. Then the conjunctival sac is flushed out with a large quantity of fluid which is ordinarily normal saline, though in cases which are suspect it may be an antiseptic such as weak perchloride or 1 to 5,000 oxycyanide of mercury. Slight pressure from a wall tank or from a large hand-syringe is often employed, and frequently the fluid is passed under the upper lid by means of a flat nozzle. Some operators prefer a large bottle on the undine principle and do not use a nozzle for the upper cul-de-sac. Axenfeld douches first with 0·25 per cent perhydrol and follows this with normal saline, but does not as a rule disturb the upper lid. Elschnig, once he is satisfied that for his purpose the conjunctiva is sterile, prefers not to use any douche, but, if suspicious, he uses oxycyanide. Siegrist, of Berne, flushes out first with 1 to 2,000 oxycyanide and afterwards with normal saline. In our own country we have Herbert, of Nottingham, who, as the result of very large experience in India, is a strong advocate of the advisability of employing a douche such as will inhibit the activity of organisms. The douche which he uses is relatively strong—namely, 1 to 3,000 perchloride of mercury—applied by means of a glass tube and rubber teat, and is followed up by a second flushing with boiled water.

There is, then, a decided feeling on the part of many well-known ophthalmologists that something more than mere douching with normal saline is advisable. One may say, I think, that the trend of the best practice of to-day, in the matters with which we have been dealing, is: (1) Do not operate if you know there are dangerous organisms, unless forced by circumstances to do so. (2) If such organisms have not been excluded by careful examination, even though their presence is not in the least suspected, nevertheless act as if some were present. Try to wash away as many as possible, and endeavour to inhibit the activity of the remainder by the use of antiseptics which may act until the wound has had at least a chance to become sealed. It must be admitted, I think, that not many operators have the courage to say, as, in effect, does Elschnig, "I am satisfied that dangerous organisms are absent and I shall not disturb the conjunctiva in any way." But Elschnig's examination of the conjunctiva is unusually strict.

THE PREPARATION AND THE CLOTHING OF THE SURGEON.

My next subject is the interesting one regarding the preparation and clothing of the surgeon. It is particularly interesting in this that some operators set so much more store by elaboration than do others. Yet all claim excellent results. One man is satisfied if his hands are clean, another is content to wear sterile sleeves. Lieut.-Colonel Smith, whose name is in everybody's mouth on account of his intracapsular extractions, smokes a cheroot while he works. I have seen a Continental surgeon whistling gently, though he wore no mask.

To the other class of operator whose eyes alone are visible through a complete armour of aseptic clothing, all such laxity is an offence. I have notes of every variation from the strictest aseptic routine downwards to what one would call absolute carelessness. Remember, I am not speaking of ten years ago, but of 1911-12. Of our own land I will say this, that so far as my observations have gone—and that is not very far, it is true—the average British ophthalmic surgeon has not seen the necessity of carrying strictness, in the matter of what I have called his aseptic armour, to the extremes fairly commonly met with on the other side of the channel.

I have full notes of the details of the ablutionary methods of various surgeons, and of their clothing, but such details might prove wearisome. Two points will be sufficient to mention, namely, the wearing of masks and the use of sterile rubber gloves. On the Continent the wearing of some sort of mask is practically a universal custom. Many operators are content with one which hooks over the ears and covers the mouth and nose. Others are clothed *cap-à-pie* and have the whole head except the eyes and bridge of the nose completely swathed in a gauze towel. If the operator wears glasses this towel is apt to prove very embarrassing on account of the tendency of the lenses to become steamy.

I have never seen an operation on the eyeball itself performed by an operator wearing gloves. Elschnig declares that it is comparatively easy to become accustomed to rubber gloves even for such delicate work, yet, even he, one of the very strictest of the men whom I have seen at work, does not see the necessity for gloves in most operations upon the eyeball. But it is a very common thing to see the assistants wearing rubber gloves, and in Elschnig's clinique I had the opportunity of witnessing the wrath of the Professor when the instrument assistant, of all people, neglected to wear them. In all plastic work Elschnig wears gloves himself.

It must be admitted, I suppose, judging by the variations in the strictness with which the surgeon isolates himself from the field of operation, not only in different cities, but in different hospitals in the same city, and even among the staff of the same hospital, that the amount of risk coming from the surgeon himself is far from being a known quantity in operations upon the eyeball. Personally, it seems to me that while the average man is not justified in embarrassing himself with gloves in such delicate work, he is equally unjustified in working without protecting the patient in some way from the risk of contamination with sputum; more particularly when it is remembered that the sputum may contain the very organism which we most dread, namely, the pneumococcus. This risk is all the greater since in eye operations the patient is not usually under the influence of a general anæsthetic, and is therefore subject to the verbal command, often the necessarily sudden and explosive verbal command of the operator. Contamination by the hands is a risk which is probably considerably lessened by the dry method of using instruments to be presently discussed, and seems to me a smaller risk altogether than contamination by the sputum, because the hand risk can be guarded against by scrupulous technique, whereas the ejection of sputum in giving a sudden command to the patient is practically a reflex. Nevertheless, so well-known and esteemed an operator as C. Hess declares that masks are quite unnecessary in eye work.

Eye Instruments and their Preparation.

I have not said much about the preparation and the clothing of the ophthalmic surgeon, because this is not necessarily different from that undertaken by the general surgeon; but, coming next to the treatment of eye instruments, we are on somewhat different ground.

Eye instruments, and especially the knives and needles which we employ, are for the most part small and delicate. This very quality, while in one sense it facilitates transport and preparation, makes these really more difficult, because it takes next to nothing to render the edge of a knife or the point of a knife or needle quite useless to the ophthalmic surgeon. Only those who actually use such instruments are able to realise this fully, and it is a well-known fact that many vendors of them are ludicrously ignorant of the requirements of the user. The latter, in consequence, is sometimes hard pressed to get a usable knife or needle in a hurry. Eye instruments, other than knives, needles, and some scissors, can be treated by boiling in the usual way, and hardly merit special attention here.

With regard to the sterilisation of the instruments with delicate edges and points, there are, as far as I know, three methods in use, namely, (1) boiling, with special precautions, (2) dry heat, and (3) immersion in some germicidal fluid.

First, as to boiling, it has long been held by a considerable number of operators that boiling is destructive to these delicate edges and points. This was certainly my belief before I went abroad, and it has been the practice at the Glasgow Eye Infirmary to prepare knives and needles by immersion first in ether and then in alcohol, followed by transference to boiled water; of late years, however, the preparation has been completed by a dip into the steriliser after removal from alcohol. Yet I found on the Continent that most operators are boiling their knives for three minutes in the usual 1 per cent sodium carbonate solution.

The edges and points are protected by placing the instruments in racks in the steriliser, The racks are lifted out of the steriliser and laid on a sterile towel, and usually the instruments are picked out of the racks either with tongs or with gloved hands and laid out on the towel. They become perfectly dry and are used dry. I asked particular questions about the effect of this treatment on the keenness of the blades, and was assured by most that practically it does no harm. Notably, Professor Fuchs insisted on the harmlessness of boiling *unless the temper of the steel is incorrect.* He has had cataract knives which, after having been boiled for forty operations, were as good as when new. Some, however, were destroyed by the first boiling.

Secondly, as to sterilisation by means of dry heat. This has come very much into vogue in Paris, and in France generally, yet in the course of my travels, which did not include France, I did not once come across it. Dr. Maitland Ramsay has had the apparatus fitted in one of the nursing homes, and kindly gave me the opportunity of inspecting it. Dr. Ramsay considers the method quite satisfactory for private work, but owing to the necessity of preparing separate sets of instruments for each operation to be performed at any one time, he has not felt justified in recommending his infirmary managers to go to so much expense. There is another thing against it, namely, that since one cannot wait for the resterilisation of any instrument which may be wanted a second time, one is obliged to have at hand an ordinary steriliser as well.

The third method of sterilising delicate instruments is that by means of chemical fluids. Those most in use are ether, alcohol, and carbolic acid. Some operators employ ether plus alcohol plus a dip for a moment in the steriliser. The latter may be omitted, and the instrument placed from alcohol into boiled water or normal saline. Hess uses 5 per cent carbolic acid, and dips the instrument into the steriliser. Maddox, of Bournemouth, employs in succession ether (methylated), pure phenol, and alcohol, finally dipping the blade for a second in sterile water. Maddox says that although the ether may be omitted since phenol itself is a grease destroyer, yet grease lessens the antiseptic power of phenol; so that if grease be suspected on the blade it is best to use the ether as well. A mixture of alcohol and phenol was used by Marcus Gunn, but according to Maddox the alcohol lessens too much the toxicity of phenol. I believe some British operators use 1 in 20 carbolic, but with that I personally should not feel quite safe.

One must not forget that the polish of an eye knife ought to be perfect, both from the standpoint of smooth work and that of asepsis; on this account Herbert keeps his knives liberally smeared with vaseline. When they are required he sterilises by boiling.

Reviewing the whole subject of the sterilisation of eye instruments, one has the feeling that boiling, if carried out in an intelligent manner and not for too long a time, is likely to be as satisfactory a method as any.

Space will not permit of the discussion of individual sterilisers. It is sufficient to say that in the course of my journeying I have seen this piece of apparatus as big as a kitchen range, and as small as a beer mug.

I have a few words to say on certain points in the actual *technique* of the operation which have a bearing on this question of asepticity. Perhaps the most important of these is the question, "Shall we use everything dry, or shall we be indifferent as to the amount of saline, sterile water, or whatever it is, on instruments, swabs, or hands?" I can only answer this question by saying that while I have seen, in the various cliniques visited, both methods employed, I was much more impressed by the dry than by the wet technique, and since coming home have begun to develop the former in my own work.

I may be allowed briefly to sketch an ideal method of procedure deduced from observations of the work of a number of the best known operators, and, of course, subject to such variation as may suit the ideas of the individual surgeon:—

The instruments having been boiled in racks in the steriliser, the rack or racks are laid on a large sterile towel. An assistant or nurse, wearing sterilised rubber gloves or armed with sterile tongs, lifts the individual instruments out of the racks and lays them ready on the towel. The surrounding skin having been prepared and cleansed, the eye cocained, and the conjunctiva douched—and in Britain most surgeons prefer the undine in some form—the conjunctiva, edges of the lids, and site of incision are freed of excess moisture by means of sterile damp swabs on glass rods, one wipe for one swab. The surgeon, whose hands are dry, receives the dry instruments from the gloved hand of the instrument assistant or from the tongs with which they have been picked up. During the operation only damp swabs are employed unless actual fluid is necessary. Damp swabs can be used either wrapped round glass rods, or directly by the gloved hand of the assistant. Actual douching after the completion of the operation may be necessary, but is better avoided if possible. Excess fluid can be mopped up with damp swabs. A swab is then passed over the edge of each lid, the eye is closed, and a dry dressing applied. Of course, in any given case circumstances may render adherence to a rigid technique almost impossible.

I should like to mention a little operative "tip" practised by Carl Hess to lessen the risk of contamination of the wound during the performance of the cataract operation. Instead of an ordinary eye speculum, Hess employs a special retractor which is made in two pieces in such a way that a shaped portion of sterilisable waterproof tissue (Billroth battist) can be gripped between the two blades of the instrument. During the operation this tissue covers over the exposed portions of the lid edges at the nasal and temporal sides of the retractor, and at the same time prevents the accidental contact of the point of the knife with the lid margin, caruncle, or skin. It is an excellent device, though it entails a little special knowledge on the part of the assistant or nurse whose duty it is to cut the waterproof tissue to the correct shape.

AFTER-TREATMENT.

Lastly, as regards the after-treatment, so far as the question with which we are here dealing is concerned, most operators apply a dressing of some sort to one or both eyes. Hess, however, after cataract extraction does not do so. He places in position a specially shaped metal shield which leaves the eyelids free. This shield is fastened to the skin of the face with sticking plaster, and is intended merely to prevent the eye being damaged accidentally. Hess claims that his cataract results are second to none.

In the foregoing article I have not attempted to go into much detail, but rather to give an outline of present-day methods, as I observed them in some nine or ten Continental and several British cliniques. To any who are more deeply interested in the subject, the various articles on foreign cliniques, which appeared last year in *The Ophthalmoscope* by Sydney Stephenson, Bernard Cridland, and myself, may prove of service.

Obituary.

WILLIAM DOVE MACFARLANE, L.R.C.P.Ed., L.F.P.S.G., J.P. (Retired), late of Busby.

By the death of the late Dr. Macfarlane, which took place in Glasgow, on 29th December, at the residence of his son, a well-known practitioner has been removed from amongst us.

The deceased gentleman was born in 1843 and educated at the Universities of Glasgow and Aberdeen, and at Anderson's College, taking the diplomas of L.R.C.P.Ed. and L.F.P.S. Glasg. in 1867. Early in his professional life he commenced practice in Busby, in succession to the late Dr. Ross, and there he continued in active work for the long period of thirty-eight years. About seven years ago he retired from practice and came to live in Glasgow with his only son, who up till that time had for some years been associated with him in professional work. On this occasion both father and son were made the recipients of handsome testimonials at a public meeting of the residenters of Busby and the neighbourhood, where they were held in the highest affection and esteem.

It might have been thought that, after retiring from such a long and busy professional life, time would have hung heavy on his hands; but Dr. Macfarlane was one who happily had other interests with which to occupy his leisure. He had travelled much abroad, and, in addition to being a close observer, was a wide reader. He had a broad outlook and was possessed of great tolerance, and that he had many friends, old and young, was not to be wondered at.

Though bearing traces of hard work, he was young at heart, and nothing seemed to give him greater pleasure than to listen to the views expressed by younger men on medicine and literature, and to enter into friendly discussion with them on these topics. It may truly be said that while such afforded pleasure to him, it was always fraught with profit to them.

During the past year Dr. Macfarlane enjoyed but indifferent health, and latterly it was evident to those who met him that the end was not far off. But when it came, as it did, with suddenness, his death was felt as a severe blow by the large circle who had enjoyed his intimacy.

An upright, hard-working, simple and God-fearing man, Dr. Macfarlane was an example of all that is best in the profession.

His wife predeceased him many years ago, and he is survived by their only child, now a distinguished member of the profession in Glasgow, to whom our heartfelt sympathy is extended.

JAMES BARCLAY MONTGOMERY, M.D.GLASG., F.R.C.P., J.P., PENZANCE.

THE death occurred on Christmas Day at his residence, Clarence Place, Penzance, of Dr. J. B. Montgomery.

Deceased, who was in his eighty-fourth year, was the eldest surviving son of the late Mr. James Montgomery, of Edinburgh, and of The Braidley, Ayrshire. Studying medicine in Glasgow, he graduated M.D. in 1851. In 1852 he took the diplomas of L.R.C.S.Ed., and M.R.C.S.Eng. In 1859 he became M.R.C.P. Lond., and sixteen years later received the Fellowship.

Dr. Montgomery practised in Penzance, for which town he was J.P., and was Consulting Physician to the West Cornwall Infirmary and Dispensary.

CURRENT TOPICS.

APPOINTMENTS.—The following appointments have recently been made:—

Glasgow Central Dispensary.—In connection with the new premises in Richmond Street the directors of the Central Dispensary have instituted two new departments, viz., for Diseases of the Eye, and for Orthopædics. John Gilchrist, M.D., has been appointed to the Eye Department, and J. H. Pringle, M.B., F.R.C.S.Eng., to that of Orthopædics.

J. King Patrick, M.B., Ch.B.Glasg. (1901), B.Sc. (Pub. Health), D.P.H., of the Public Health Department of the

Borough of Leicester, has been appointed Tuberculosis Officer to the Metropolitan Borough of Hampstead.

David Livingstone Centenary.—The celebration of the David Livingstone Centenary, which occurs in the course of next month, has aroused considerable enthusiasm in Glasgow. In the latter part of last year a committee, representing the University, the Corporation, the Royal Faculty of Physicians and Surgeons, and other public bodies, was formed, and it was arranged that an afternoon gathering be held in the University on 18th March, at which an oration on Livingstone be delivered. On the following day there will be a public service in the Cathedral, and in the evening the Corporation will hold a reception in the City Chambers.

At a meeting of the representative committee, held in the City Chambers, on 15th ult., it was resolved "that a Livingstone Centenary Memorial Fund be established for the promotion (1) of medical missionary work in Central Africa, especially in connection with the London Missionary Society, the Livingstonia Mission of the United Free Church, and the Blantyre Mission of the Church of Scotland, and towards the establishment of a Livingstone scholarship in Anderson's College Medical School for the training of medical missionaries; and (2) for the promotion of the scientific study of geography in the University of Glasgow by the endowment of a Livingstone lectureship or professorship."

The committee instructed that an appeal be issued to the public in the terms of this resolution, intending subscribers to be asked to indicate to which section of the memorial they desired their subscriptions to be allocated, and that where no such indication was given the committee be authorised to exercise their own discretion.

The following executive committee was appointed to take charge of the memorial:—The Lord Provost, Principal Sir Donald MacAlister, the Rev. Dr. Brown, Professor Gregory, Dr. Macintyre, Mr. Maylard, Dr. Gourlay, the Rev. Dr. Shepherd, the Rev. J. Fairley Daly, the Rev. Robert Pryde, Mr. R. W. Henry, and Mr. John S. Samuel. The last-mentioned is acting as hon. secretary and treasurer of the fund.

It was resolved that the members of the representative committee attend officially the unveiling of the statue of Dr. Livingstone at Blantyre on 15th March.

Duty on Hospital Legacies: Memorial by Hospitals Association.—The following memorial has been addressed to the Chancellor of the Exchequer by the British Hospitals Association on behalf of hospitals in the United Kingdom supported by voluntary contributions:—

"SIR,—The Council of the British Hospitals Association, representing over 400 voluntary hospitals throughout the United Kingdom, begs your consideration to the following statement in reference to the work and financial position of these institutions, with a request that you will favourably entertain their claim to be relieved from the payment of duties to the Exchequer in respect of Legacy Duty upon bequests made to them.

"The direct loss to the voluntary hospitals involved in the imposition of such a heavy burden as a 10 per cent duty on their legacies is in itself a serious curtailment of the usefulness of the institutions; but the existence of such an impost operates indirectly to their prejudice in the minds of the benevolently inclined when making their testamentary arrangements. It is believed that if it were decided, through the wisdom of Parliament, that bequests to hospitals should hereafter be paid in full, the immediate result would be an increasing number of such benefactions to the benefit of the hospitals, and the ultimate advantage of the State.

"It is difficult to discern the principle on which the exemption granted to charitable institutions in Ireland from Legacy Duty, temporarily by the Stamp Duties (Ireland) Act, 1842 (5 and 6 Vic., cap. 82, sec. 38), and made permanent by the Stamp Act, 1853 (16 and 17 Vic., cap. 59, sec. 20), is withheld from similar institutions in England and Scotland. Your Memorialists feel that they may fairly and reasonably urge that hospitals and other charitable institutions in Great Britain should be placed on an equality in this respect with institutions of the same character and carrying out the same beneficent work in Ireland.

"The Council submit that the assistance rendered to suffering patients by these hospitals is a national work, which, if not provided for by these institutions, would have to be undertaken by the State. The beneficence of the work, in not only relieving temporary suffering, but in restoring patients to a state of health in which they can return to their several callings, and so resume the discharge of their duties to the State, to their employers, and to their families, has never been and cannot be called in question; while the importance of the public services they render as training schools for both the medical and nursing professions cannot be over-estimated.

"Moreover, it is evident that the services of the hospitals will be needed as much after as before the passing of the National Insurance Act, inasmuch as the treatment afforded under the Act is only such as can be given by a general practitioner.

"With all the voluntary hospitals the difficulty of meeting the progressive increase of expenditure is very great, and it is impossible to check altogether or even largely such continuing increase if the patients are to receive the benefits of the latest discoveries and improvements in medicine and surgery. These institutions are mainly dependent for their maintenance upon voluntary contributions and bequests; the total amount of their incomes derived from endowments being relatively very small as compared with their total expenditure.

"Your Memorialists feel confidence in submitting that having regard to the voluntary duties discharged by hospitals supported by voluntary contributions, to the benefits received free from charge by large numbers of His Majesty's subjects whose sufferings and necessities demand and receive not only sympathy, but practical and most efficient relief, at great self-sacrifice on the part of many of the workers in their cause, it is incongruous that any portion of the benefactions to, or income of, the hospitals should be diverted from the objects for which they have been given, even as a contribution to the revenue of the State, bearing in mind that the moneys taken in taxation would otherwise be applied for purposes, the expenses of which would fall on the State, if not voluntarily provided for by donors, subscribers, and workers.

"Your Memorialists therefore respectfully but strenuously urge that hospitals supported by and mainly dependent on voluntary contributions should be exempted and relieved from payment to the revenue of duties on the benefactions made to them from time to time, the whole of which are expended in ministrations of compassion and mercy to those in suffering and extreme need.

"Signed on behalf of the Council of the British Hospitals Association,

"DONALD J. MACKINTOSH, *Chairman.*
"CONRAD W. THIES, *Hon. Secretary.*

"*15th January, 1913.*"

ARCHDEACON COLLEY'S WILL: HIS BODY LEFT FOR ANATOMICAL EXAMINATION.—The Venerable Thomas Colley, of the Rectory, Stockton, near Rugby, Archdeacon of

Pietermaritzburg, Natal, and canon of St. Peter's Cathedral, Pietermaritzburg, formerly curate of St. Thomas's, Coventry, and of Portsmouth, who died on 30th September, 1912, left estate of the gross value of £7,609, 0s. 1d., of which the net personality has been sworn at £915, 2s. 2d. Archdeacon Colley stated in his will:—

"I direct that my body after my death shall be examined anatomically by a professor of the Birmingham University or other authorised person or persons attached to such University, and for that purpose my trustee shall send my body to the said University as soon as possible after the expiration of 48 hours from the time of my decease; and I earnestly desire that after such anatomical examination the bones of my body shall be delivered over to the custody of my son, Clarence Christopher Colley."

At the time of his death it was stated that the testator had by his will given his body "for medical students' use, and to be cut up in the interests of anatomical and surgical science when I have done with it," but it will be seen that the actual wording of the clause was not in such sweeping terms.

We understand that in law there is no right of property in the body after death. Presumably, however, the authorities would not in a matter of this kind strain the point, more especially at the present time when anatomical teachers have been complaining of the difficulty in obtaining material.

Bellefield Sanatorium; The Annual Report.—In his annual report Dr. J. W. Allan, the Resident Medical Officer at Bellefield Sanatorium to the Glasgow and District Branch of the National Association for the Prevention of Consumption, says that during the year ending in September last 165 cases were admitted and 151 dismissed, leaving 48 under treatment. On the whole the results of the treatment have been satisfactory, although some of the cases dealt with were not desirable from a sanatorium point of view. That experience, however, was not confined to Bellefield. As on a former occasion, the Medical Officer expressed regret that patients on leaving the sanatorium had, in many instances, to return to unhealthy environments and undesirable occupations. It was all very well to advise a patient when he was discharged from the institutions to go and live in the country and change his occupation for a healthier one. A skilled workman desired to live in the town in order to be near his work and to earn a good wage. If he removed to the country and sought out-door work he would earn only a small wage, quite inadequate to the support of a family if he was a married man; and even in the case of a single man the remuneration for casual employment might be too small to secure comfortable housing and a sufficiency of nourishing food. A man would thrive on fresh air *plus* good nourishment, but he would not grow fat on fresh air alone. There could be no doubt that poor and insufficient nourishment—especially if it was taken at irregular intervals—induced dyspepsia and malnutrition, which prepared the way for the reception and growth of the tubercle bacillus.

The patients at Bellefield continued to engage in graduated labour with beneficial results. The work done included (the heaviest class of labour) cutting down trees and putting in fencing, removing soil to sand pits, repairing cinder path, delving ground in grazing field, assisting gardener and cutting grass; (intermediate) weeding croquet green, trimming walks, weeding about the grounds; and (lightest labour) cleaning brasses, picking up litter, and keeping the verandah platforms in order. This graduated labour formed part of the treatment of the patients with a view to auto-inoculation—by means of which the protective agencies in the patient's system were stimulated to action and recovery promoted. There was no doubt about the benefit derived from regulated work in the open air—provided the cases were suitable. The patient's temperature was always carefully observed, and that was taken as an indication in regulating graduated labour. The ages of those treated during the year ranged from 15 to 55, the greatest number being between the ages of 25 and 30. From time to time the Medical Officer delivered short addresses to the patients on pulmonary tuberculosis and its treatment, and care was taken to keep before their minds the danger inherent in the sputum and the need for scrupulous care in its disposal. He did not believe, however, that it was judicious to lecture incessantly on the subject of consumption, as many were apt to let their minds dwell too much on the disease. The sanatorium routine in itself constituted a course of practical instruction in personal hygiene, and the precautions necessary for the public safety.

SCOTTISH POOR-LAW MEDICAL OFFICERS' ASSOCIATION: REPORT FOR THE YEAR 1912.—In their circular calling the annual meeting on 31st ult., the committee of the Scottish Poor-Law Medical Officers' Association issued their report for the past year.

A considerable correspondence has taken place during the past year in connection with vacant appointments. In every case the outgoing medical officer has willingly supplied the necessary details in regard to number of population, area of district, character of roads, probable value of private practice, average outlay for expenses, house accommodation, &c., and the secretary has therefore been able to supply satisfactory information to all applicants. In no case has it been necessary to warn applicants against accepting appointments owing to the unjust treatment of the outgoing medical officer. No case of dismissal of a medical officer by his Parish Council has come to the knowledge of the committee, a highly gratifying state of matters, as it shows that Parish Councils are more careful in the treatment of their medical officers than has been the case in past years, and justifies the chief aim in the formation of the Association. It is noticeable that several of those parishes in which vacancies have occurred appear in the report year after year, the cause of the frequent changes being inability to make a decent income, isolation, &c.

Insurance Act.—During the year a large correspondence has also taken place with members in the more sparsely-populated country districts. Many questions have been asked, the chief of which was, What was to be done with insured persons living 10, 20, 30 miles from the medical officer? The advice given was to notify the Insurance Commissioners that they are agreeable to attend insured persons within a radius of 2 miles, but, in all other cases, provision must be made by the insured person for his medical attendance as a private patient unless the Insurance Commissioners grant an adequate mileage fee for each visit.

HISTORY OF THE MEDICAL TEACHING IN TRINITY COLLEGE, DUBLIN, AND OF THE SCHOOL OF PHYSIC IN IRELAND.—In our issue for September of last year (vol. lxxviii, p. 197) we referred to the celebration of the bi-centenary of the medical school of Trinity College, Dublin.

We have now before us a handsome volume,[1] the work of Dr. T. Percy C. Kirkpatrick, in which the history of the Dublin Medical School is set forth.

As is usual in works of this nature, there are frequent abstracts from old registers and books of the college, and while such do not make for easy reading, they supply the material for a picture of the early struggles and development of the medical school. In these abstracts and throughout the narrative occur the names of many who were in their day leaders of the profession, and Dr. Kirkpatrick in most instances furnishes biographical outlines which are of the greatest interest.

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[1] Dublin: Hanna & Neale, 1912.

As regards legislative enactments for the medical school, a very full account is given of the various Acts. The institution of "clinical" teaching is told in great detail, and the difficulties encountered in carrying it out are fully dealt with. Then the erection of successive buildings and equipping of various departments of study is described, with here and there amusing sidelights, such as the scene where the anatomist Macartney broke his umbrella over the head of Morrison, the architect, as the result of a difference of opinion on the buildings under construction.

The University did not always live in harmony with the College of Physicians, and the story of their troubled relations reminds us of a similar state of affairs nearer home.

In an appendix the chronology of the medical staff is given, in a form most convenient for reference, and a full index completes the volume.

The story of the Dublin school is somewhat complicated, and Dr. Kirkpatrick must have had many an hour of toil in unravelling it from the sources of information at his command. His labours have culminated in a volume for which the school must be deeply grateful, and which will be turned to by all others who may be interested in the history of medical teaching in these islands.

PREVENTION OF DENTAL CARIES.—We had occasion recently (vol. lxxviii, p. 290) to refer to the subject of the prevention of dental caries, and to draw attention to Dr. Sim Wallace's work on the subject.

In the January issue of the *British Dental Journal* there appears an interesting paper by Mr. David Fyfe on the prevention of caries by oral prophylaxis. Mr. Fyfe expresses his indebtedness to various American dental surgeons who have worked at the subject, and then goes on to a consideration of the structure and chemical composition of the enamel. He introduces Pickerill's classification of teeth—hard, sclerotic, and malacotic, and refers to the important fact that when a tooth is first erupted its enamel is less dense and less resistant than later on. It is suggested that the acquired resistance is due to the salts of the saliva being "taken into the comparatively porous enamel of freshly-erupted teeth, rendering that structure more dense and resistant to mal-influences." This leads him to a detailed consideration of the constituents of the saliva and their uses. In passing, he refers to deficiency in the secretion of parotid saliva, calculated by Pickerill at from one-third to one-thirtieth of the amount secreted by the other glands.

Having drawn attention to the importance of the saliva and its various constituents as a means of protection to the teeth, he takes up the question of how it may be physiologically stimulated to its greatest normal quantity and alkalinity. He divides prophylaxis into two categories—natural or physiological, and artificial or mechanical.

The natural or physiological prophylaxis depends on a full physiological flow of saliva, and in this connection Mr. Fyfe believes that "if civilised peoples would 'get back' to the more simple forms of food—foods that require some definite chewing, and are of a distinctly tarty flavour—we would not hear so much of the vexed question of the increase of caries among civilised nations."

He regards artificial or mechanical prophylaxis in these days of advanced civilisation, and more particularly in adults, to be fully as important as the former, and he believes that a "happy combination of the two would give the best results." After the use of a detergent alkaline powder or paste, the mouth should be washed out with an acid solution (*e.g.*, acid tartrate of potash, or citric or tartaric acid), the wash being used long enough (fully one minute) to have the desired stimulating effect on the salivary glands.

Patients should be taught the importance of correct diet, and encouraged to persevere until a habit be formed. This will not only benefit themselves, but they will probably utilise their knowledge in the case of their children, "and thus we shall have a generation growing up with sane ideas and habits so far as their teeth, and, consequently, general health, are concerned.

As regards mechanical prophylaxis, the surfaces of the enamel should be kept so smooth and polished that micro-organisms and foodstuffs will have difficulty in finding a foothold. The details of mechanical cleaning are gone into, and are followed by rules for the patient's observance.

Mr. Fyfe concludes with the opinion that the ideal preventive treatment of caries is "physiological" prophylaxis, "but"—and here is the crux of the matter—"time and education are necessary before it can supersede the artificial method or the combination of both."

The article is full of interest, and we recommend it to all whose duties, parental or professional, bring them in touch with the upbringing of children.

THE ILLNESS AND DEATH OF NAPOLEON BONAPARTE.[1]—In an article in a recent number of the *Glasgow Herald*, entitled "The Success of Failure," the writer instanced among others Napoleon, and contrasted the never-flagging interest in everything concerning him with the comparative oblivion which has fallen upon Wellington. Close upon the heels of this article appeared Dr. Chaplin's little book—*The Illness and Death of Napoleon Bonaparte: A Medical Criticism*—and within a few weeks thereafter Professor Keith delivered, as the second Hunterian lecture of the Hunterian Society, an address on "The History and Nature of Certain Specimens alleged to have been obtained at the *Post-mortem* Examination of Napoleon the Great."[2]

In Dr. Chaplin's little work, the clinical history and the *post-mortem* findings have been carefully studied, and the author comes to the conclusion that the illustrious patient succumbed to cancer of the stomach, secondary to a gastric ulcer. He examines in some detail the views expressed by O'Meara and Stockoe that Napoleon suffered from hepatitis, and rejects them on clinical evidence. As regards Antommarchi's individual report of the *post-mortem* examination, Dr. Chaplin thinks that this was coloured "in such a way as to lend some plausibility to the belief in the hepatitis theory" (p. 66), and he criticises the contradictions which the report presents as to the structure of the liver. "Napoleon, then," writes Dr. Chaplin, "died of cancer of the stomach which most likely originated in a chronic ulcer and remained undiagnosed until the *post-mortem* examination was made" (p. 90). The author is hard on the medical men concerned: "The doctors were all of limited professional attainments, and, in some cases, of mediocre intelligence (p. 93). . . . When the curtain fell, they passed from the light, were heard of no more, and are remembered now only on account of their professional association with the great Napoleon" (p. 94).

The book is an interesting contribution to the literature on Napoleon, and the author has, we think, made out a strong case for his view as to the nature of the illness and the cause of death.

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[1] *The Illness and Death of Napoleon Bonaparte: A Medical Criticism*, by Arnold Chaplain, M.D.Cantab., F.R.C.P., with three illustrations (London: Hirschfeld Brothers, 1913).

[2] *British Medical Journal*, 11th January, 1913.

Professor Keith examines the matter from a different point of view. He argues in favour of the genuineness of the two fragments of small intestine said to have been given by O'Meara to Sir Astley Cooper, and now in the museum of the Royal College of Surgeons of England. The fragments were entered in the MS. catalogue of Sir Astley Cooper's museum: "Incipient fungus in the glands of an intestine (Napoleon). Barry O'Meara to Sir Astley Cooper." Professor Keith describes the microscopical characters of the said "fungus" as those of lymphoid tissue resembling glands "enlarged from inflammatory or hyperplastic conditions," and he goes on to argue that the ill-health of Napoleon at St. Helena, previous to the development of gastric cancer, was caused by undulant fever.

Quite apart from anything in Dr. Chaplin's book, we are inclined to agree with the editor of the *British Medical Journal* that Professor Keith's argument for the authenticity of the relics is rather thin, and in view of this we are not disposed unreservedly to believe that Napoleon suffered from undulant fever. At the same time we think that Professor Keith, even if he has not established his thesis, deserves credit for a carefully executed piece of work.

PETER MARK ROGET.—The issue by Messrs. Longmans of a new edition of the *Thesaurus of Words and Phrases* recalls the fact that its author, who died in 1869, was a medical man, Peter Mark Roget, M.D., F.R.S.

Born in Soho, in 1779, Roget was the son of a native of Geneva, who was pastor to the French Protestant Church in Threadneedle Street. Educated at a private school in London, young Roget early turned his attention to mathematics, in which department of study he made considerable progress. Some time after the death of his father, his mother removed with her family to Edinburgh, and here Roget entered the University in 1793. Two years later he began the study of medicine, and graduated M.D. in 1798, at the age of 19. His course of study was—a not uncommon event in those days—interrupted by an attack of typhus fever contracted in the wards of the infirmary. After graduation he spent some time in the London medical schools under such men as Baillie, Cruikshank, and Heberden.

In 1802 he became travelling tutor to the sons of a Manchester merchant, and in the summer of that year he was detained by the French at Geneva, as a prisoner on parole. Released on the plea of his Genevan origin, he with his pupils made a detour, and arrived in England in 1803. In the following year he became private physician to the Marquis of Lansdowne, and in 1805 he succeeded Perceval as physician to the Manchester Infirmary, and became one of the founders of the medical school of that city.

In 1806 Roget temporarily forsook medicine, becoming private secretary to Viscount Howick, Secretary for Foreign Affairs; but, tiring of this employment after the lapse of a month, he returned to Manchester, where he remained till 1808, when he removed to London. Here he lived for nearly half a century, engaged in scientific lecturing, and in work connected with medical and scientific societies. He became L.R.C.P. in 1809, and the same year started the Northern Dispensary, to which institution he acted as physician for the space of eighteen years. Although he was busily engaged in medical work, his early tendency towards mathematics declared itself and bore fruit in the form of a logo-logarithmic rule which he devised, and which procured him his F.R.S. in 1815. He became secretary of the Royal Society in 1827, and retained office till 1849. In 1831 he was elected F.R.C.P., and in 1837 became a member of the Senate of the University of London, a post which he retained till his death.

After his retiral from the secretaryship of the Royal Society he compiled his well-known *Thesaurus*, a work which became so popular that during his lifetime it reached its twenty-eighth edition.

He wrote many papers in encyclopædias, and he was, further, deeply interested in, and a keen exponent of, the game of chess.

As regards the *Thesaurus*, we learn from the preface to the first edition (1852), that the author had in 1805 compiled a classed catalogue of words to help to supply his own deficiencies in literary composition. He had for many years found this little collection of great use to himself, and he often contemplated its extension and improvement. It was not, however, till after he had freed himself from the duties of the secretaryship of the Royal Society that he had sufficient leisure to undertake the task.

The nature of the work is best expressed in the author's own words. It supplies a collection of words and phrases "arranged, not in alphabetical order as they are in a dictionary, but according to the *ideas* which they express." The object of the *Thesaurus* is the converse of that of a dictionary. It is—"The idea being given, to find a word, or words, by which that idea may be most fitly and aptly expressed. For this purpose, the words and phrases of the language are here classed, not according to their sound or their orthography, but strictly according to their *signification.*"

The plan of classification and the tabular synopsis of categories guide the reader in his use of the work, and the index enables him with the least expenditure of time to find the word or phrase desired.

Only those who have had occasion to use the work can form an accurate estimate of the magnitude of the author's task. And, having done so, they might go further and imagine that although he had taken his medical degree, his work and interests lay beyond the scope of medicine. That such was not the case, but that he was a man of boundless energy, both in things medical and non-medical, we have endeavoured to show by the above brief sketch of his life and work, of the former of which most of the particulars will be found in the *Dictionary of National Biography.*

An Historical Medical Exhibition in London.—In connection with the meeting of the International Medical Congress in London during the present summer, an Exhibition of rare and curious objects relating to medicine, chemistry, pharmacy, and the allied sciences is being organised by Mr. Henry S. Wellcome. The response to the appeal for loans has been most successful, with the result that probably one of the most interesting collections of historical medical objects ever gathered together will be on exhibition during the meeting of the Congress.

Among other interesting sections is one including the medical deities of savage, barbaric, and other primitive peoples. Through the kindness of friends, specimens of these have been forwarded from all parts of the globe, but there are still many gaps to be filled, and those who possess such objects, and would be willing to loan them, should communicate with the Secretary of the Exhibition, whose address is given below.

Amulets, talismans, and charms connected with the art of healing will also form another prominent feature, and any loans of this description would be welcomed.

In the section of surgery an endeavour will be made to trace the evolution and development of the chief instruments in use at the present day, and it is desired to accumulate specimens of instruments used in every part of the world by both savage and civilised peoples.

In pharmacy and in botany special exhibits are projected, which will include models of ancient pharmacies, laboratories, and curious relics of the practice of alchemy in early times. Specimens of ancient and unusual materia medica from all parts of the world will also be exhibited.

A complete illustrated syllabus will be forwarded to anyone interested on application to the Secretary, 54A Wigmore Street, London, W.

SEVENTEENTH INTERNATIONAL MEDICAL CONGRESS.—At the International Medical Congress to be held in London from 5th till 12th August, Dr. Foveau de Courmelles, of Paris, will deliver an address to a joint meeting of the sections of Radiology and Gynæcology on the "The *X*-Rays and Radium in Gynæcology." The lecturer will be glad to receive detailed observations on this subject from any medical men who may possess such. Communications should be addressed to 26, rue de Châteaudun, Paris (9^e), with as little delay as possible.

THE RADIO-ACTIVE WATERS OF BATH.—Recent investigations of the hot springs of Bath, conducted by Sir William Ramsay, K.C.B., F.R.S., have shown these waters to be the richest in Great Britain in radium, and its even more potent emanation—niton.

	Milligrams per million litres.
Radium in the water of the King's Spring, .	0·1387
Niton (radium emanation) in King's Spring, .	1·73
" " " in natural gas from King's Spring, ...	33·65

The figures given for niton are the weights of radium capable of forming the niton present in a million litres of water or gas.

These important scientific discoveries have been followed by the addition of new methods of applying the waters in the cure of disease. Apparatus has been installed whereby the natural radio-active waters of the hot springs may be inhaled, or used for special sprays, in a finely atomised form. In suitable cases the gases from the springs, rich in radium emanation, are applied in conjunction with the water.

NEW PREPARATIONS, &c.

From Mr. W. Martindale.

A number of elegant preparations, viz.: *Erythrol Nitrate* tablets, ½ grain; *Nitroglycerine* tablets, $\frac{1}{100}$ grain; glass capsules of *Amyl Nitrite* encased in silk and wool; *Trilactine* tablets, stated to contain a true and reliable lactic acid bacilli preparation—these are put up in small glass tubes, and each tube represents a day's supply: they may be taken with a little sugar after meals or used for the preparation of curdled milk; *Formosyl* gargle, stated to contain formalin, phenol, boric acid, essential oils, &c.—this is a pleasant and elegant preparation; *Desiccated Milk* and *Glycerophosphate*—a very palatable preparation, which is easily mixed with hot water. All these samples are a credit to the firm, and fully maintain its high reputation as one of our leading British chemists.

From Messrs. The S.P. Charges Co.

Thiomel, an ointment which is stated to contain sulphur in a combined and dissolved form as well as in a state of suspension. It is advanced for use in the treatment of skin affections, wounds, cuts, and abrasions.

From Mr. E. W. Blazius.

A statement that owing to difficulties in connection with the name "*Novoform*," von Heyden's preparation, which is stated to be tetra-brom-pyro-catechin-bismuth, will be known as "*Doriform*." It is a substitute for iodoform and similar products.

From Messrs. Burroughs Wellcome & Co.

"*Paroleine*" *Spray Compound*—this is stated to contain menthol, chlorbutol, and "eucalyptia" in a basis of "paroleine." It is intended for use as a spray in the treatment of the nose and throat. It is claimed that chlorbutol, while an anæsthetic ingredient, does not set up a drug habit, and in consequence that this compound may be used instead of those compounds which contain cocaine. This is an elegant and pleasant compound.

MEETINGS OF SOCIETIES.

OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

SESSION 1912-1913.

MEETING III.—11TH DECEMBER, 1912.

The President, DR. JOHN LINDSAY, *in the Chair.*

This meeting of the Society was held in the Glasgow Maternity and Women's Hospital.

I.—DR. LINDSAY showed a fresh specimen of an abortion sac which exhibited a marked disproportion between the size of the embryo and the containing sac.

II.—THE MANAGEMENT OF DIFFICULT LABOUR.

BY DR. ROBERT JARDINE.

Dr. Jardine gave a practical demonstration on "The Management of Difficult Labour," showing the various manipulations on the phantom and exhibiting the several instruments required. He also showed numerous specimens of fœtal abnormalities, and in particular a full-sized pregnant uterus, with Bandl's ring and rupture of lower uterine segment, removed *post-mortem.* Dr. Jardine dealt first with occipito-posterior presentations, explaining the mechanism in cases which rotate normally. In non-rotating cases the method of inserting the hand and producing rotation to the front while the anterior shoulder is pushed round by the external hand was demonstrated, and also, in cases where the shoulder could not be felt externally on account of obesity, the method of producing rotation by pushing the fingers of the hand in the vagina upward and completing the movement from the vagina.

Face presentations were next demonstrated. Early flexion of the head by the hand—the fingers over the occiput and the thumb on the forehead—was advocated. When a tumour of the neck exists the treatment is version. Version should be performed early. When the case has become malrotated, with the chin backward, the only method of delivery, except in the case of small children, is craniotomy, done through the orbit or mouth. The difficulties encountered in impacted breech cases, where the membranes have ruptured and the uterus has become moulded round the fœtus, were explained. The upper uterine segment retracts, the lower segment becomes thinned out, and the retraction ring grips the child round the chest or abdomen, the heels being above the ring. In these cases the patient is deeply anæsthetised, and one foot is brought down; this is generally sufficient to relieve the pressure, and delivery can be effected by traction on the foot.

In transverse cases early treatment by version must be done. If impaction has occurred or where an arm is down, version, unless done by an expert, is dangerous, and should not be attempted by a practitioner on account of the probability of rupture of the uterus occurring. In these cases the child is generally already dead, and decapitation must be performed. In performing decapitation Ramsbottom's hook may be pushed through the lower uterine segment. Dr. Jardine showed his modification of Braun's hook, which has a small curve and a sharp cutting edge. When an arm is down it may be necessary to cut through the chest from the upper side of the neck to the lower axilla.

Bandl's ring as a cause of obstruction was discussed. Two cases were mentioned where the ring formed a distinct ledge in front of the presenting head. The treatment of these cases is Cæsarean section. Sometimes cases are met with where the ring is firmly contracted round the neck, the head of the child being free. Early rupture of the membranes has taken place in these cases. Often embryotomy is necessary in dealing with this condition. The ring may form in the third stage of labour and cause retention of the placenta above it—so-called hour-glass contraction of the uterus.

Contracted pelves were next considered. In these cases the question is not so much the diameter in actual inches; rather is it, Will the given head get through the particular pelvis? These cases should be diagnosed early and Cæsarean section arranged for where necessary. In some cases the anterior parietal presentation will come through, whereas in a pelvis of the same size a presenting head of similar size will not come through if the presentation is a posterior parietal one. It is important to diagnose these varieties of presentation, as the forceps may be quite effectual in the anterior but delivery by the forceps impossible in the posterior. In anterior cases the forceps in its traction simulates Nature's method, while in the posterior parietal presentation the instrument, by pulling down the anterior half of the head, makes matters worse. In posterior presentations version should be done, and that early; or, if possible, the posterior presentation should be changed into an anterior one by manual manipulation, the posterior parietal bone being pushed up so as to allow the anterior to come down. Forceps may then effect delivery.

The methods of performing craniotomy were discussed and the instruments demonstrated. The value of Dr. Jardine's combined instrument for crushing and extraction was pointed out.

A vote of thanks was proposed by the President for the clear and practical demonstration given, and Dr. Jardine replied.

SCOTTISH OTOLOGICAL AND LARYNGOLOGICAL SOCIETY.

THE Society met in the Royal Infirmary, Edinburgh, on Saturday, 30th November, 1912, Dr. J. S. Fraser in the chair.

DRS. J. S. FRASER and RAYMOND VEREL submitted a report on 76 consecutive operations on the nasal accessory sinuses. Of these 11 were fronto-ethmoidal, 52 antral and antro-ethmoidal, 3 ethmoidal, 6 spheno-ethmoidal. There were also operations on four dentigerous cysts. Some of the patients were shown.

Discussion chiefly dealt with the method of treating antral suppuration, the general opinion being that where washing out the antral cavity did not lead to a cessation of the discharge, resort should be had to the Caldwell-Luc operation, by which, in the great majority of cases, a cure could be confidently anticipated. The intranasal operation did not receive much favour.

DR. FRASER gave a lantern demonstration of the pathological changes in various stages and types of labyrinthine suppuration—serous labyrinthitis, fibro-purulent labyrinthitis, purulent labyrinthitis (manifest and latent), healed labyrinthitis.

He also showed a patient operated on by Mr. J. W. Struthers for epithelioma of the hypo-pharynx. A somewhat similar case, operated on by Mr. Wallace two years ago, was shown by Dr. Logan Turner.

Dr. J. H. Gibbs contributed an interesting paper, illustrated by lantern slides and skiagrams, on dental surgery in its relation to rhinology. He discussed the association under four headings:—

1. Developmental defects, insisting especially on the importance of training young children to use well their muscles of mastication for the purpose of widening the dental arches, and so increasing the width of the nasal passages.
2. Injuries, such as the passage of a tooth root into the maxillary antrum, and fracture of the antral wall during dental operations.
3. Infection of the antral and nasal cavities from diseased conditions of the teeth.
4. Dental cysts and follicular odontomes.

Dr. J. Kerr Love gave a lantern demonstration exhibiting the production of both congenital and post-natal deafness by congenital syphilis. A number of family trees were shown.

Dr. Carl Browning made some remarks on the Wassermann reaction in these cases. Although in some the affected child gave a negative reaction, the syphilitic taint could be inferred from the positive reaction in one or more members of the same family not affected by deafness. This tended to confirm Dr. Love's opinion that the aural condition is the result of an expiring syphilitic virus.

Dr. Logan Turner showed—

1. A boy with a large keloid involving the scar after the mastoid operation. Removed in January, 1911, it returned, and was in July, 1912, larger than before.
2. A young man on whom he had operated for sarcoma of the tonsil.
3. Four cases of lupus of the nasal mucous membrane treated with nascent iodine (Pfannenstiel's method). Sodium iodide was administered in small doses at first. At the end of a week the amount was 30 grains in twenty-four hours. The nasal cavities were then carefully cleaned, and packed with strips of sterilised gauze. The patients were instructed

to keep these plugs moist with a solution containing hydrogen peroxide and a small quantity of hydrochloric acid and perchloride of iron. The results were more satisfactory than those of other methods of treatment.

Dr. T. W. G. Ross read a paper on fifteen cases in which the bone cavity, after the radical mastoid operation, was treated with scarlet red, and showed several patients in illustration.

Epithelialisation appears to be hastened by this method, though in the subsequent discussion scepticism was expressed as to the high value placed on it by some, *Dr. T. Barr* remarking that the whole subject of the after-treatment of the radical mastoid operation was worthy of a full and careful discussion. Whatever method is adopted, a *sine quá non* for a dry cavity well lined by epithelium is the closure of the Eustachian orifice, a matter of much difficulty.

Dr. Milligan reported a case of naso-pharyngeal fibrosarcoma, operated on three years ago, in whom there has been no recurrence. The anæsthetic was administered through a Kuhn's peroral intubation tube, a valuable method in these large operations on the nose and naso-pharynx.

Dr. Milligan also showed an œsophageal pouch removed by operation. Though thus designated, these pressure pouches are really of pharyngeal origin, the fault in the pharyngeal wall occurring just before its junction with the œsophagus. The pouch removed, the opening in the pharyngeal wall was closed by a double row of sutures. There has been no relapse, and the patient has gained in weight.

Dr. Milligan also gave an account of a case of traumatic perforation of the œsophagus into the aorta, with death from hæmorrhage. A rabbit bone had been swallowed ten days previous to the patient coming under observation. On œsophagoscopy no bone could then be found, but at the level of the bifurcation of the trachea a small granulation was seen. There was then no hæmorrhage. Two days later the young man died. On *post-mortem* examination a small patch of necrosis was found in the œsophageal wall. The adjacent mediastinal tissue was also black and necrotic, and the aorta was similarly affected in a small area in which there was a perforation. The specimen was shown.

Dr. Malcolm Farquharson reported at some length a case of chronic sinusitis of the ethmoid and sphenoid, associated with oculo-orbital symptoms. The patient, a woman, complained of frontal headache, accompanied by swelling over the lower part of the forehead, eyelids, and upper part of right cheek, of a fortnight's duration. On examination, there was found, in addition, proptosis of the right eyeball, with diminution in its range of movement. The fundus and optic disc were normal, but vision was impaired. The frontal and antral cavities transilluminated well. Intranasal examination did not reveal pus or crusts. The patient was, however, advised to go into hospital for immediate operation. Three days, however, elapsed before she did so. The sight of the eye was then found to be almost gone, and on ophthalmoscopic examination it was seen that the edges of the disc were blurred and the vessels full, and the pupil did not react to light. Operation was carried out. The sphenoidal sinus and the spheno-ethmoidal cell were full of œdematous granulations, but there was very little pus. The frontal sinus was opened, but was found healthy. The vision improved somewhat, but later examination showed marked pallor of the disc and commencing atrophy. Movements of the eyeballs became normal.

Dr. Farquharson also showed a man who had suffered from severe dyspnœa as the result of a large cyst in the region of the right arytenoid and aryepiglottic fold. The cyst was incised, but filled again, and was again opened. It gradually disappeared under vocal rest and inhalations, and the movements of the cord slowly returned to normal.

Dr. J. D. Lithgow described an intra-nasal radical operation which he had devised for dealing with maxillary antral disease. In connection with it he showed a pair of mirrors for lateral intra-nasal rhinoscopy. The operation consists of two stages, and is performed under local anæsthesia. The first stage is the usual intra-nasal procedure, the removal of the lower and anterior part of the nasal wall of the antrum. If there is still discharge at the end of five or six weeks, the second part of the operation is performed. This consists in the removal by means of scissors and snare of the anterior third of the inferior turbinal, together with a large part of the adjacent antral wall. The after-treatment can be carried out by the patient, and consists in spraying the antrum with peroxide of hydrogen, douching with saline, and insufflating $\frac{1}{2}$ per cent solution of menthol in parolein. The cavity can be inspected with the aid of the lateral mirrors, and curettage can be carried out if necessary.

Dr. Lithgow exhibited an improved form of guillotine for extracapsular enucleation of the tonsils by the Whillis-Pybus method, together with some tonsils removed by this instrument.

Dr. W. G. Porter showed two cases of singer's node removed by the indirect method, in the one case by means of Moritz-Schmidts forceps, in the other by the cautery. The latter patient also had ozæna. This was treated by an autogenous vaccine of Abel's bacillus, which was found in pure culture. Eighteen inoculations were given, ranging from 10 million at first up to 300 million at intervals of a week in the earlier period, and longer intervals in the later. The formation of crusts ceased, and the odour disappeared.

Dr. Porter also showed another case of ozæna similarly treated, and with an equally satisfactory result.

Dr. John M. Darling showed a rare and interesting case of pedunculated tumour attached to the anterior faucial pillar, and hanging down into the pharynx. A small piece removed was reported as being simple fibroma, but the appearance of the growth strongly suggested malignancy, a view in which the members concurred.

Dr. Brown Kelly showed a patient, a young man, suffering from keratosis of the larynx and trachea. There was no keratosis in the pharynx. On the anterior two-thirds of the slightly red left cord was an irregular white formation like curd, and on the anterior wall of the trachea were three or four white prominent points. The condition had remained unchanged for three months. Films prepared from the excrescence on the cord showed a few leptothrix filaments and small cocci or bacilli, while sections showed strata of flattened epithelial cells surmounted by broken strata similar to those of the cornified layer of the skin.

Dr. James Adam reported on the result of operation in a case shown at the previous meeting. There was then swelling in the region of the external walls of both superior maxillæ. On operation each antral cavity was found to be filled by a large fibroma undergoing osseous changes.

Skiagrams of the mastoid region were shown by Drs. Porter and Logan Turner, and the latter, with Dr. W. T. Gardiner, showed pathological specimens illustrating tubercular ulceration of the trachea, syphilitic necrosis of the larynx, stenosis of the larynx after diphtheria and tracheotomy, meningitis secondary to sphenoidal sinus suppuration, frontal lobe abscess and meningitis secondary to accessory sinus suppuration and orbital abscess.

DR. H. H. BOLTON showed a series of cultures of the bacillus proteus vulgaris.

It was arranged to hold the next meeting in the Victoria Infirmary, Glasgow, in May, under the chairmanship of Dr. Brown Kelly.

Dr. W. S. Syme was re-elected hon. secretary and treasurer.

REVIEWS.

My System, 15 Minutes' Work a Day for Health's Sake. With Cinematographic Illustrations and a Time Table. By J. P. MULLER, Lieutenant, Royal Danish Engineers. Translated by G. M. FOX-DAVIS and H. R. MURRAY. London: Ewart, Seymour & Co., Limited. 1912.

THOUGH it be the veriest truism that without health "life's a gift no worth receivin'," there probably never was a time when insistence on it was more necessary. What we have learned about the causation of disease has shown us that civilisation is only to be had at a price; and we frankly admit—and even laud—the justice of this arrangement, so long as we personally are not asked to pay toll. Happily, we now recognise that all talk about returning to Nature is merely talk; but, unfortunately, perhaps owing to a long experience of false prophets, we are not always so ready as we ought to be to listen to any plan that proposes to circumvent or cajole Nature. It is as a compromise that Lieutenant Muller's *My System* should make its appeal—a means whereby, through the expenditure of no more than fifteen to twenty minutes daily, man may keep in apparently perfect health and yet follow the occupations, for which in all probability he was never intended.

Nothing was ever accomplished in this world without enthusiasm and optimism, and perhaps exaggeration. Consequently, we need not marvel that, in defiance of all knowledge of the life-histories of man and beast, the present writer declares that "it is possible, and, indeed, quite natural, to preserve both the physical and the mental faculties almost unimpaired for at least a hundred years." Unfortunately, too, Lieutenant Muller is no exception to the rule that the physical culturist will be meddling with physic, and this leads him to utter what we believe to be arrant nonsense, such as that a certain exercise is "splendid for preventing disease of the kidneys," that his system "is deemed efficacious by the medical profession for the treatment of diabetes and anæmia," that his exercises "strengthen the lungs," and that he has known of sportsmen and athletes who could not perspire because "the pores of their skin were choked with clotted grease and dirt." We are, however, quite prepared to agree that this system is excellent for certain cases of indigestion, constipation, and obesity, but consider that our author is on safer ground when he declares—"My system is above all for the healthy, that they may maintain their health and further develop their strength and beauty." Otherwise we have nothing but praise for Lieutenant Muller's methods, which seem to be on sound lines—to obtain, without the use of apparatus, general physical as opposed to merely muscular development. It is not his idea to make of his pupils parodies of Hercules.

The increase in chest measurement produced by certain physical culturists has been conclusively demonstrated to be really due to the occurrence of emphysema, but we gather that the writer promises a true increase of expansive capacity. We cannot sufficiently emphasise the importance of the method of breathing here taught. We had been under the impression that cardiac hypertrophy and athleticism were synonymous, not only in man but in dogs and horses; nevertheless, it would appear that this need not be so. It seems strange that we should deny ourselves what we lavish on our domestic animals, and we thoroughly approve of the air-bath and skin-grooming here prescribed. The exercises can be graduated to suit both sexes and all ages; they can be made mild or severe. All the same, those in indifferent health would be well advised to follow the author's sage advice—"Sick people should always consult a physician before taking up the system."

Lieutenant Muller's system can be carried out at any time of the day that is convenient, but must be conducted in a room with open windows. Its essential features are as follows:—

First there comes a series of eight exercises, which are performed in a definite order and for a given number of times, and which are designed to develop the muscles of the trunk rather than those of the limbs, the author believing that the functional activity of the underlying viscera increases as the superimposed musculature improves in vigour and tone. Great attention is paid to assuring a correct form of respiration, the breath being inhaled and exhaled deeply, quietly, and uninterruptedly through the nose all the time; never is an exercise, or part of one, executed with the glottis closed. A pause of twelve seconds is allowed for two very deep, or three fairly deep, easy respirations after each exercise, to steady the heart; and during this interval more advanced pupils also practise heel-raising and deep knee-bending movements. Then follows the bath, which may be cold or lukewarm, its object being to apply clean water to the whole surface of the now perspiring skin. The body is next briskly and thoroughly dried, after which ten composite rubbing exercises, including a number for the muscles of the arms, breast, back, legs and trunk, are proceeded with in air-bath costume. The rubbing is done with the palms of the hands, and should be a simple friction or stroking to begin with; later on, as the pupil's strength increases, it should be so vigorous that it becomes a sort of massage. It is difficult to keep up zeal in any system of physical culture, but the infinite variety of these exercises, and the ease with which they lend themselves to be rendered still more exacting and interesting, augurs well for their continued popularity.

Lieutenant Muller has some sensible remarks to offer on what he terms the minor sources of health. He is no food faddist, rightly condemns flannel underwear, shows a proper respect for fresh air and sunlight, is rational about the care of the teeth, advocates moderation in smoking as in all things, and makes some much needed comments on attention to the feet.

The book is lavishly illustrated with reproductions from photographs of the author carrying out his various exercises. Lieutenant Muller's pictures do not at all suggest the professional strong man, the muscles of whose brawny arms keep time to German bands; yet we fancy that not many could perform his "suspended anvil trick," and that fewer still would allow a man, weighing 216 lb. and wearing thick-soled boots, to jump eight feet and land on their naked abdomen. Some of the figures here shown are remarkably fine, and we are not surprised to learn that Mr. Fra. H. Newbery, Director of the Glasgow School of Art, declared that "never had he seen in all his experience so beautiful a body as Lieutenant Muller's."

In conclusion, it should be stated that all instructions are lucidly and concisely given, and that the author throughout presents his matter with a style of convincing vigour.

Sprue: Its Diagnosis and Treatment. By CHARLES BEGG, M.B., C.M.Edin. Bristol: John Wright & Sons, Ltd. 1912.

WHATEVER may be the nature of sprue—whether it is due to an "incapacity of the European constitution to withstand tropical climates," as Manson has it, or is of bacterial origin—all authorities are agreed that in its treatment nothing is to be hoped for from drugs, and that reliance is to be placed only upon diet, the patient being as soon as possible sent home, and forbidden to return to the tropics. This is the position that Dr. Begg sets out to combat. His long experience in the East led him to believe in the microbic nature of the disease, and to attack it by parasiticide remedies, one of which—old yellow santonin—has proved in his hands as successful as quinine in malaria.

The cases in which it fails are those in which the disease has been in existence for so long as to lead to profound exhaustion, in which complications have supervened, or in which conditions resembling sprue have been mistaken for it. Accurate diagnosis is, therefore, essential, and it is based upon the passage, at first in the morning only, of loose, bulky, pale, "cowpad"-like stools, very frothy, and of an acid reaction; upon progressive emaciation, with flatulent distention of the abdomen; and upon a constant diminution of the hepatic dulness. The typical "geographical tongue" may or may not be present, and though there is usually denudation or ulceration, in some cases the tongue may entirely escape. There is usually mental lethargy. The whiteness of the stools, as Cammidge shows, is due to the reduction of the normal stercobilin of the fæces to leuco-urobilin, and not to biliary obstruction.

In all such cases, whether acute or chronic, so long as they have not gone on to the last stages of exhaustion, santonin, given for six days in doses of five grains, well rubbed into a teaspoonful of olive oil, and taken "the last thing at night and the first thing in the morning," completely controls the symptoms. Constipation follows the diarrhœa, the patient puts on flesh, and the liver dulness becomes normal. But santonin, as the chemists at present send it out—bleached by being kept in the dark—is useless. It must be old yellow santonin, obtained by exposing the white variety to a subtropical sun for at least six months. With this drug, as he shows by illustrative cases both from his own practice and from that of others who have used his method, Dr. Begg's success has been remarkable. It is the more noteworthy in that the treatment can be carried out on the spot, and that it is no longer necessary for the patient to return home, to the interruption or the premature closure of a promising career.

The dietetic management of convalescence may be tedious, and the course of santonin may have to be repeated, but with the limitations mentioned the treatment is specific. It is obvious that if in the hands of others Dr. Begg's success becomes general, he will have done a lasting service in the relief of suffering. His book is to be warmly recommended to all those who practise or intend to practise in the East.

Materia Medica and Pharmacy. By REGINALD R. BENNETT, B.Sc.Lond., F.I.C. Second Edition. London: H. K. Lewis, 1912.

THE first edition of this book appeared four years ago, and its preface on that occasion stated that it was intended primarily for students preparing for the degree of Bachelor of Medicine of London University, and also for those preparing for the English Conjoint Qualification.

For such a purpose the book seems well fitted. It gives the pharmacognosy of the drugs of the *Pharmacopœia* and its Galenicals. In the body of the book the drugs are arranged in groups according to their chief pharmacological actions, and at the beginning there are clearly written paragraphs which introduce the subject and explain the meanings of the terms used in the *Pharmacopœia*, and of the names of the principal plant constituents. Weights and measures, an alphabetical posological table, a table in which the doses are grouped in order of increasing doses, a table of preparations of chemical substances and alkaloids, with percentages of active ingredients, and an appendix on incompatibility are included. There is an efficient index.

In Scotland the examinations on materia medica include pharmacology, and the book does not deal with this.

As far as it goes it ought to serve the purpose for which it was written, and it can be recommended to those students who wish a small, handy, separate book on pharmacognosy.

Diseases of the Nervous System. By JUDSON S. BURY, M.D., F.R.C.P., B.Sc. Manchester: At the University Press. 1912.

PROFESSOR BURY'S work presents in its arrangement a striking difference from the usually accepted model for a text-book on nervous diseases. Dedicated "to the past and present students of the Manchester Medical School," it is based upon a clinical classification, and the author justifies this arrangement by its usefulness in teaching, as he has found it advantageous, after describing the various neuronic systems, to show series of cases illustrating the lesions of each of them in turn. In this way, students become most readily familiar with the anatomical diagnosis of lesions of the cord and brain. Proceeding upon these lines, Professor Bury begins with the usual anatomical introduction, devotes a disappointingly brief section to etiology and general pathology, and discusses at greater length and very clearly—although it is unusual to find Kernig's sign dealt with under "reflexes"—the clinical manifestations of disease and the methods of investigation. He then opens the special part with an account of the spastic paralyses, as illustrating diseases of the upper motor neuron, and at once the weakness of his classification becomes apparent. For the section begins at p. 91 with an account of hemiplegia, and we have to wait for more than a mere reference to its causes in the brain until we reach p. 599. And it is not long before we find him forced to admit that the classification cannot be rigorously adhered to. In the discussion of spastic paraplegia he states that "it is most frequently found to depend on disseminated sclerosis or dorsal myelitis," but that it is inconvenient to separate dorsal from other forms of myelitis.

He therefore omits it from the section on spastic paralyses, which thus becomes incomplete as a clinical classification. Nor is this all; if we turn to myelitis under "Intrinsic diseases of the cord," at p. 269, we, indeed, find dorsal myelitis dealt with, but compression myelitis is described at p. 316, under "Spinal disorders characterised by the presence of pain," and syphilitic myelitis under "Syphilis of the nervous system," at p. 748. Clinical and systematic teaching must necessarily differ; and it is unfortunate that this should have been the book to show the limitations of a clinical classification, for in other respects it has numerous excellences. Its descriptions of disease are clear, terse, and accurate; its illustrations are many and to the point; its diagrams are simple and explanatory; its size is convenient, and its page is very legible. A little more care in proofreading would have avoided such mistakes as "central ovale," p. 31, and "musculo-spinal," pp. 145, 179, of which there are too many; and the volume would gain in usefulness by a more adequate index.

Second Annual Report on the Medical Inspection of School Children in the Counties of Fife and Kinross, 1910-1911. By J. R. Currie, M.A. Oxon. and Edin., M.D. Glasg., D.P.H. Birm. Edinburgh: Turnbull & Spiers.

By those interested in the medical inspection of school children this volume will be read with interest. The report deals with defects discovered in routine inspection and also in non-routine examination. The impediments to treatment are also noted. Dr. Currie classifies these as due either to indifference, ignorance, or cost. There is no doubt that the basis of this trinity of causes is being progressively, if slowly, eaten into. It will no doubt be found that the difficulties of the school doctor of succeeding generations will bear on him much less than they do at present. Prejudice with its roots deep down in ignorance is possibly the greatest obstacle in his path. In the following up of cases there is in any scheme of medical inspection some difficulty, and Dr. Currie suggests with some force that, in addition to this being done by officials, good work might be done by linking up this method with Care Committees, whose members would be ready to help and guide parents as occasion may require, apart from formal procedure under statute.

Altogether, the report provides food for reflection with regard to the possibilities of any scheme of medical inspection, and Dr. Currie is to be congratulated on giving a freshness of view to the subject.

The Diseases of Infancy and Childhood. By L. EMMETT HOLT, M.D., and JOHN HOWLAND, A.B., M.D. New York and London: D. Appleton & Co. 1911.

THIS is undoubtedly one of the best text-books on pediatrics in the English language, and is already so well known and appreciated by both students and practitioners that it is only necessary to make known that a new edition has recently appeared. On this occasion the author has been associated in the work of revision with Dr. John Howland.

For the purposes of this edition the book has been in great part rewritten, and full advantage has been taken of the latest advances in this department of medicine. The newer ideas regarding the feeding of infants and the pathology of nutritional diseases of the Finkelstein school receive detailed mention, and the chapter on infantile paralysis has benefited by the authors' and other workers' experience of the recent epidemics of that malady.

Common Disorders and Diseases of Childhood. By G. F. STILL, M.D., &c. Oxford: University Press. 1912.

THIS is a book which we have great pleasure in recommending to all who are interested in diseases of children. It is no mere editorial piece of work, but is a purely personal production. In almost every page one finds ample evidence of the fact that the author is merely giving from his ripe and extensive experience, and herein, of course, lies the whole charm of the book, even although the reader does not always agree with the author's dicta. One will find, in addition, the opinions of others who have contributed to the various departments of the subject.

To pick out any portion of the work for special mention is impossible, but the chapter on "Fever of Obscure Origin," where the author's broad outlook on medicine is seen at its best, his chapters dealing with "Some Urinary Disorders in Childhood," "Convulsive Disorders in Infancy," and "On Certain Morbid Habits in Children," make interesting and instructive reading. We are sorry to see that in the question of "Infant Feeding" Dr. Still makes no mention of feeding with whole milk. He advocates great dilution (1-5) for newborn children, thinking that in this way he so modifies the milk as to make it most nearly approach that of the mother. Of course, this opinion is based on the idea that the greatest difference between human milk and cow's milk lies in the casein, a belief which is somewhat shaken by the recent work of Meyer and Orgler and others. He advocates small quantities at a time, and consequently must increase the frequency of the feeds, which alone is not improbably the cause of much of the mischief in this field of medicine.

A Practical Text-Book of the Diseases of Women. By ARTHUR H. N. LEWERS, M.D.Lond., F.R.C.P.Lond. Seventh Edition. London: H. K. Lewis. 1912.

THIS well-known text-book has now reached its seventh edition, and this is a guarantee of its usefulness. The clinical and practical characters have been retained, and a large number of new illustrations have been added. The sections on cancer of the uterus and fibroid tumours have been amplified, and a full description of Wertheim's operation has been given. Throughout the book much new material has been incorporated, but there is one chapter we consider has not been brought up to date. We refer to the chapter on flexions and versions of the uterus. In the treatment of posterior displacements it is stated that the bladder should be emptied, the uterus replaced with a sound, and a suitable pessary inserted. No mention is made of any other method of replacement. Retroversion or retroflexion with incarceration of the body of the uterus in Douglas' pouch is spoken of, but no method of treatment is advised. Surely these women are not to be left to suffer without any attempt being made to relieve them. If another edition of this book is called for, this chapter should certainly be brought up to date.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

EDITED BY ROY F. YOUNG, M.B., B.C.

MEDICINE.

Immunity in, and Specific Treatment of, Pneumonia. By E. C. Rosenow (*Illinois Medical Journal*, April, 1912).—Although lobar pneumonia is a disease characterised by a very definite clinical picture and pathology, the fundamental questions of how the pneumococcus gains entrance, the mechanism of intoxication, and how the infected host rids itself of this micro-organism are still quite obscure. That certain important changes which render us susceptible to virulent pneumococci take place in the serum of the patient is indicated by the observation which the writer has made that pneumococci produce acid by growth in the serum obtained during the initial chill, whereas in normal serum the reaction remains neutral.

Phagocytic immunity.—The reason why non-virulent pneumococci are not able to cause infection seems to be due to their prompt destruction by leucocytes when injected into animals. Virulent pneumococci are resistant to phagocytosis *in vitro*, and when injected into animals. This resistance to phagocytosis seems to be due to a substance, "virulin," which goes into the sodium chloride solution during autolysis. The pneumococci from which it has been extracted are now able to absorb opsonin from serum, and are subject to phagocytosis, while the part which goes in solution neutralises opsonin, and is taken up by certain strains of non-virulent pneumococci, rendering them relatively resistant to phagocytosis and intraleucocytic destruction. Many have shown that the opsonic index to pneumococci, while below normal early in pneumonia, is above normal and at its greatest height about the time of crisis in favourable cases, while in overwhelming infections the index remains persistently low. This is proved experimentally in animals. Thus, it is clear that the opsonic index may be looked on as an index of resistance offered by the infected animal.

Further, leucocytes in pneumonia, during active leucocytosis, are not only more active phagocytically, taking up more pneumococci than normal leucocytes under the same conditions, but they take up pneumococci of a higher grade of virulence. Tunnicliff has found that the phagocytic power of the leucocytes in mild cases of pneumonia is increased. In severe cases it is diminished, while the severe symptoms are present, but when the patient improves it rises above normal. Eggers has shown that there is a very close relation between the antipneumococcal (phagocytosis and intraleucocytic destruction) power of the blood and the clinical symptoms in pneumonia. Mennes observed that leucocytes in normal blood behaved indifferently toward certain virulent pneumococci, while, after adding immune serum, the cocci were taken up rapidly. Clinical observations in pneumonia and studies in experimental pneumococcus infections indicate that leucocytes in some way play an important *rôle* in destroying pneumococci. The amount of phagocytosis in pus due to the pneumococcus, or in consolidated lung in pneumonia, even during the crisis is never very great.

The above observations speak in favour of the view that certain primary changes take place within virulent pneumococci before they are liable to phagocytosis *in vivo*, just as has been found to be the case *in vitro*. The later phagocytosis and intraleucocytic digestion nevertheless is probably an important means by which the body destroys pneumococci and their toxic products.

Bactericidal immunity.—Pneumonic serums or other pneumococcus-immune serums produce on pneumococci no demonstrable pneumococcicidal powers. Pneumococci grow as well in pneumonic serum at all stages of the disease as they do in normal serum. In a further study of the effects of pneumonic serum on virulent pneumococci, as compared with normal serum, the interesting observation has been made that pneumococci destroyed by either disintegrate more rapidly in pneumonic than in normal serum.

Antitoxic immunity.—The phenomenon of crisis would seem to be best explained on the ground of the development of an antitoxin. Neufeld found that pneumonic serum during crisis has distinct protective powers against pneumococcus infections in mice. The protection was limited largely to homologous strains. Keyes has found that injections of large amounts of pneumococci into insusceptible animals yield an immense serum which has a definite protective and curative power over pneumococcus infections in white mice. The mechanism of this is not quite clear, but it is probably not a direct neutralisation of toxic substances as is the case in diphtheria.

Anaphylaxis in relation to pneumococcus products and infections.—It has been proved that virulent pneumococci possess all the essential properties to cause intoxication forthwith without first sensitising the animal. On the other hand, there is evidence to show that in certain cases of pneumonia the onset may be due to the development of the anaphylactic state at this time, and that the crisis occurs when the patient becomes anti-anaphylactic. This idea is in keeping with the well-known fact of a very transient immunity in this disease.

The specific treatment of pneumonia.—Two methods are at our disposal—passive immunisation by the injection of the so-called antipneumococcus serums in which we presumably inject preformed antibodies, and active immunisation by the use of heat-killed pneumococci or other products of pneumococci in which we hasten the formation of antibodies in the patient. As shown above, various observers have been able to obtain antipneumococcus serums, which protect animals against pneumococcus infections to a certain extent, but when used in the treatment of lobar pneumonia they seem to fail. Numerous references have been made to favourable results obtained from the use of various serums, but the number of cases has been too small; other factors have intervened, and coincidence may be the explanation of success in certain cases. The value of inoculation of dead bacteria or vaccines in acute infections in general is questioned by many. The conditions at hand in lobar pneumonia are such that the hope of accomplishing much is quite small. It is well known that the injection of heat-killed bacteria causes first a negative phase in the opsonic index, and then a rise above normal; the curve differs only slightly from that obtained in lobar pneumonia with recovery.

The author has attempted to separate from pneumococci the toxic from the antigenic component, though he is aware of the fact that many experimental facts suggest that these are one and the same substance. He has been able to separate from virulent pneumococci a large part of the toxic material which goes into solution on autolysis, and has left in the pneumococci the part which stimulates antibody formation more promptly and without first producing a negative phase. The number of autolysed pneumococci inoculated can now be much greater than those merely killed by heat. When this material is inoculated within forty-eight hours after the onset of an attack of lobar pneumonia the course of the disease is often much modified. In a series of cases of fifty treated and fifty untreated, the mortality in the former was 35 per cent, in the latter 50 per cent.

The number of cases is too small to draw conclusions. The injections were nearly always made late, the type of infection was very severe, and the kind of patients the worst possible to try any form of treatment. The importance of using this antigenic substance early is important, as it is useless when the patient is overwhelmed and the mechanism of immunity paralysed.

—D. Ross Kilpatrick.

Orthostatic Albuminuria. By Everett J. Brown, M.D. (*Illinois Medical Journal*, August, 1912).—Orthostatic albuminuria, as the name implies, is a form of albuminuria which occurs while the patient is in the upright position, and which disappears when the recumbent posture is assumed. Thus the morning urine, immediately after rising, is free from albumen, but the latter quickly appears on assuming the erect position, even if no exercise is taken, and disappears when the patient lies down. This condition is present more frequently than is supposed, and will from time to time be discovered if a routine examination of the urine of all children and young adults is carried out. This condition has also been called "cyclic," "physiologic," "functional," or "postural." Teisser gives the name "orthostatic." It occurs mostly in young people, young adults and children; it is supposed to be due to a splanchnic vasomotor paralysis causing a hypotension of the abdominal circulation; most of the patients are slim, tall, round-shouldered, hence it is sometimes called "lordotic" albuminuria; many show relaxed abdominal walls, with general splanchnoptosis; many patients show a movable or displaced kidney, which is supposed by some to be the cause.

The general symptoms are, briefly, weakness, anæmia, loss of appetite, indigestion, flabby tongue, tachycardia, adenoids, and enlarged tonsils. The urine on rising shows no albumen; but this is present at other times. It can be detected by heat and acid, but Heller's test is usually negative.

The acetic acid reaction for euglobin is always present, and is important in diagnosis as distinguishing this albuminuria from that of nephritis; specific gravity is variable, occasionally low, but never uniformly so; hyaline casts are occasionally found; blood-pressure is low or normal, and has a tendency to increase in changing from the standing to the lying position. Recognition is important with regard to treatment, prognosis, life assurance, &c. Taking the blood-pressure in these cases is of the utmost importance.

In the various forms of so-called functional albuminurias, in addition to the serum albumen there is found another proteid body, which has been variously called multo-albumen, proteid albumen, globulin, mucin, and euglobin. It is not found in nephritis. If euglobin is found in the urine during waking hours, but is absent on arising or after lying down for a while; if the specific gravity is normal or higher; if there is absence of casts or nocturia; and if the cardio-vascular system is normal, and the systetic blood-pressure not elevated, a diagnosis of orthostatic albuminuria may be made. Several investigators have called attention to the inverted blood-pressure record: normally the record is higher while upright, and lower when lying; but with this disease the reverse occurs. This the author has been able to confirm in a number of cases.

Orthostatic albuminuria is more common in boys and girls, yet it often continues into the adult state. It does not culminate in, or even predispose to, Bright's disease. It is evidence of a lowered vitality, due to faulty metabolism producing a chronic toxæmia with vasomotor relaxation.

The treatment consists in the treatment of a lowered vitality and a vasomotor hypotonus. Ross and Wright, assuming that some coagulation defect exists in the blood, report cures from giving calcium lactate, and they state that the administration of calcium lactate serves to differentiate renal from non-renal albuminuria, the excretion of albumen in the former not being affected.—D. Ross Kilpatrick.

SURGERY.

The Drainage of Urine in Urethral Fistulæ in Plastic Operations on the Urethra and in Phagedænic Ulcerations of the Penis. By M. B. N. Cholzoff (*Revue Clinique d'Urologie*, November, 1912).—Success is rare in plastic operations on the penis which depend on healing by first intention. The author considers that this is due to the use of retained catheters, as the catheter not only permits the escape of urine alongside of it, but in itself injures the urethra, irritates the mucous membrane, and thus favours infection and inflammation. In place of the catheter he recommends that a temporary fistula be made to drain the bladder, such a fistula being made into the urethra or bladder. In cases of fistulæ of the urethra which are multiple, purulent, or slow to heal, suprapubic cystotomy should be performed. In gangrenous or phagedænic ulceration of the penis urethrotomy is indicated.—Roy F. Young.

Repair of the Urethra by Grafts of Mucous Membrane. By Dr. J. Tanton (*Revue Clinique d'Urologie*, November, 1912).—Various attempts have been made to repair the urethra by mucous membrane grafts. In 1889 Wölfler replaced the lining membrane of the urethra by grafts taken, after the Thiersch method, from a prolapsed uterus, with a good result. Schnieden, in 1909, reported three cases in which the grafts consisted of a portion of ureter. One of his cases was completely successful; another was partially so, but a sinus developed at the junction of graft and urethra; the third failed because of sepsis. Jones, in 1909, made use of the appendix; no result stated.

Dr. Tanton reports two cases in which the grafts consisted of strips of mucous membrane, of convenient size, taken from the vagina. This was selected because healthy tissue, previously sterilised, could be employed. The cases operated upon were multiple strictures of the penile urethra and hypospadias, and the operations were performed in three stages—drainage of the bladder by a perineal opening into the posterior urethra, followed fourteen days later by grafting, the graft, sutured previously in the form of a tube, being placed *in situ* after the sclerosed remains of the urethral canal had been dissected away; and, finally, its posterior end sutured to the anterior end of the remainder of urethra. The final closing of the perineal fistula was made at a later date.

In his first case the patient, two years later, had a perfect result, the urethra admitting a No. 55 bougie (Charrière). In his second case union failed to take place at the junction of old and new urethra.

After operation the canal should be dilated at regular and gradually increasing intervals.—Roy F. Young.

Replacement of Ureter by a Loop of Small Intestine. By Dr. A. E. Melnikoff (*Revue Clinique d'Urologie*, November, 1912).—Following a criticism of the various methods which have been employed where a ureter has been injured or partially removed, Melnikoff advocates re-transplantation of the ureter into the bladder as the ideal treatment.

In many cases this is impossible, and, after several experiments on animals, he arrives at the conclusion that the next best method is replacement of the missing portion of ureter by a loop of small intestine. The operation, which he describes, may be undertaken in one or two stages. It is necessary to fix the upper portion of the loop of bowel to prevent torsion of the cord.

Other methods he rejects--nephrectomy as not being conservative surgery; transplantation into the rectum or through the skin, because of the irritation and frequency of renal sepsis; anastomosis with the other ureter, on account of the resulting high mortality.

(*Note.*—In his experiments on animals there was an immediate post-operative mortality of nearly 50 per cent. The other cases showed hydronephrotic and other changes in the kidney.)—Roy F. Young.

Some Results a Considerable Time after Transplantation of the Ureters into the Rectum. By A. N. Pavloff (*Revue Clinique d'Urologie*, July, 1912).—Owing to post-operative peritonitis, and, later, infection of the kidneys, the mortality after this operation is very high.

Pavloff cites two cases with good results. The first, a patient of Professor Tichoff, had this operation performed for a vesico-vaginal fistula. Three years later she became pregnant. Hysterectomy was performed, and the patient died from uræmia. At the autopsy pyelonephritis was found. Examination of the anastomosis of ureter and rectum showed the presence round the ureter at the point of anastomosis of a well-marked circular band of muscle fibres.

The other case, operated on by Dr. Krasincett, became pregnant four years after this operation. She made a good recovery from her pregnancy, and a year later Pavloff made a retroscopic examination and saw the orifices of the ureters, both ureters with perfect function.

Pavloff considers that the danger of peritonitis may be eliminated by Mirotvorzett's operation ("Les méthodes de la derivation des urines dans le rectum et leurs resultats élocgnés"—reference not given). He considers that at present there is no operation by which the renal infection can be prevented; the condition essential for success is the presence of a normal kidney and absence of pyelitis.—Roy F. Young.

DISEASES OF CHILDREN.

Die Vererbung der Syphilis. By Hans Rietschel (*Zeit. f. Kinderheilkunde Referate*, Bd. ii, H. 9, p. 577).—In this paper the author reviews in detail all the recent work which has any bearing on the question, and discusses at great length the special features which are supposed to lend support to the idea of paternal infection. Rietschel does not believe in pure paternal infection himself, but admits that there are still some points in the problem which require elucidation. As he remarks, if pure paternal infection does occur, syphilis is the only infectious disease which is transmitted to the fœtus by another than the placental route. He grants, however, that there must be some reason why such well-known authorities as Neisser, Hochsinger, and Gräfenberg believe that the fœtus may be infected direct from the father and the mother escape, and he agrees with Neisser that one undoubted exception to Colles' law is sufficient to warrant the acceptance of the theory of paternal infection.

Exceptions to Colles' law have been reported by several writers, but Rietschel attempts to explain them on the grounds of superinfection. Superinfection—not re-infection—is a recognised entity in many infections, *e.g.*, tuberculosis and vaccinia, and has recently been described in syphilis by Lipschütz. This author records two cases in which the primary sore had healed, and who at the time of the appearance of the second chancre were suffering from a typical secondary roseolar eruption. Rietschel concludes that if such can occur during the secondary stage, it will be much more likely to happen at a still later or latent period of the disease. In superinfection the course of the disease is modified, it is milder and of shorter duration, and this is exactly what took place in the cases reported by Lipschütz.

The low percentage of positive Wassermann reactions obtained by many observers in the mothers of syphilitic children, and the fact that so many of these women present no clinical manifestations of the disease, are other points brought forward to support the theory of paternal infection. With increased experience of the Wassermann test it has been shown that the vast majority —over 90 per cent—of these women do react positively, and more especially immediately after parturition. Not infrequently, too, a positive reaction is obtained in the mother, and in the child a negative reaction, which later, on the appearance of specific lesions, becomes positive. This rather militates against the idea of the reaction in the mother being due to passive immunity, one of the arguments of the supporters of the theory of paternal infection.

The absence of all symptoms in many of these women Rietschel ascribes to the peculiarity in the course of the disease consequent on the uterine mucosa being the probable seat of inoculation. Neisser has shown by animal experiments that the course of the disease and the probability of infection depend on the seat of inoculation. Cutaneous inoculation usually gives a positive result and typical manifestations; subcutaneous injection seldom a positive result, and when it does occur the symptoms are more of the nature of a toxæmia. Intraperitoneal injection and direct inoculation of the lymph glands never cause the disease. In man infection of the labia or vagina results in a typical primary sore with the classical symptoms of the disease. Rietschel suggests that in many of the cases the spirochætes enter by the uterine mucosa, which is an unsuitable nidus, and that they remain latent and do not infect the blood-stream, and consequently the absence of symptoms. With the advent of conception, however, the uterine mucosa undergoes some changes which make it a more favourable medium for the organisms, which proliferate and infect the placenta. Thence at a later period infection of the fœtus occurs, and the type of the disease depends on the time of the migration of the spirochætes from placenta to child.

Rietschel differentiates between syphilis of the fœtus and syphilis of the child. In fœtal syphilis stillbirth is the rule, while in infantile syphilis the child may be born apparently healthy and remain so for a considerable time. In the former visceral lesions predominate, whereas in the latter cutaneous manifestations prevail. In this variety (syphilis of child) it would seem not improbable that infection takes place during delivery. The uterine contractions injure the infected placenta and emboli of spirochætes are set free into the circulation of the child, with the development of the disease after a variable incubation period.

Rietschel concludes that, although much in the problem of congenital syphilis still requires elucidation, there are no known facts which are inconsistent with the idea of placental infection, and that, so long as there is not forthcoming definite experimental proof of pure paternal infection, such a theory, which has no analogue in animal pathology, cannot be accepted.

—L. Findlay.

Discussion on Syphilis (*Proceedings of Royal Society of Medicine*, October, 1912).

Syphilis as a Cause of Mental Deficiency. By H. R. Dean (*Brit. Jour. Child. Diseases*, 1912).

Among the many very interesting communications made to the Royal Society's discussion on syphilis, H. R. Dean contributes one on the relationship of that disease to mental deficiency.

Before the introduction of the Wassermann reaction this subject had received a considerable amount of attention, but the views expressed were exceedingly divergent, some holding that 17 per cent of congenital idiots were syphilitic, while others again did not consider syphilis responsible for a single case. The discovery of the Wassermann test gave a new interest to the question, and within recent years much work has been done on the subject, but with very varying results, some workers putting the percentage of syphilis in congenital idiocy as high as 57, while others only found the reaction positive in 5 per cent of the cases.

Dean investigated the matter in an asylum at Potsdam. In all 330 cases (only 7 of which presented clinical evidence of syphilis) were examined, and yet a positive Wassermann reaction was obtained in 15·4 per cent of the patients. Of those who reacted positively 44 were examples of simple idiocy, 4 had hydrocephalus, 1 suffered from epilepsy, 1 was deaf and dumb, and 1, out of a total of 15 cases, suffered from Little's disease. Dean found that the vast majority of the cases which gave a positive reaction were under 16 years of age, only 6 per cent of the patients over 16 reacting positively. Of 94 cases under 10 years, 21·27 per cent, and of 142 cases between 11 and 16 years, 16·9 per cent reacted positively. The low percentage of positive results of some authors Dean ascribes to the fact that the majority of the cases examined have been in adult life.

Careful examination of those that gave a positive reaction failed to reveal any characteristic symptom or group of symptoms. Dean considers congenital idiocy a variety of latent syphilis, and since it is generally admitted that only 50 per cent of latent syphilitics react positively, he concludes that the number of idiots that give the specific blood reaction falls far short of that actually infected.—L. FINDLAY.

DISEASES OF THE SKIN.

Rodent Ulcer occurring in a Patch of Psoriasis in the Gluteal Cleft. By A. H. Gray, M.D., F.R.C.S. (*British Journal of Dermatology*, September, 1912).—The patient was an unmarried lady, aged 56 years, who gave a history of having suffered from psoriasis since she was 24 years old, and which had never completely disappeared. For the last ten years she had noticed a swelling, which began on the left side of the upper part of the gluteal cleft, and was sore; this had gradually spread until, three years ago, it ulcerated, became very painful, and discharged freely. *X*-rays and subsequently radium were applied, but without any relief being obtained.

On examination, she had extensive plaques of psoriasis on the trunk, and a few scattered patches on the limbs. In the upper part of the gluteal cleft was an ulcer 1¼ in. long and 1½ in. in breadth. The ulcer was shallow, its floor smooth, and discharged a thin, yellowish fluid. Surrounding it was a raised, irregular, nodular edge, which was very hard, and continuous with the left edge was a psoriasis patch, which extended over the left buttock and to the skin over the sacrum, above the upper margin of the ulcer; the skin adjoining the right edge was normal. There was no glandular enlargement.

As the ulcer appeared to be of malignant nature, it was freely excised.

Examination of sections taken from the nodular edge proved the case to be one of rodent ulcer.

Dr. Gray states that cases of rodent ulcer occurring in other parts of the body than the head do not appear to be common, and he has not been able to find any other recorded case in which the gluteal cleft was affected, though a case occurring in the groin was reported by Pigg.

The occurrence of epithelioma in cases of psoriasis has attracted some attention, and Hartzell has collected a series of cases. In nearly all his cases, however, there was evidence of prolonged arsenical treatment, and also signs of supposed arsenical keratosis present, and the epitheliomata were of the squamous type. Hartzell was of opinion that in these cases the epitheliomata were the result of arsenical treatment and not of psoriasis.

Whitfield reported a case of rodent ulcer on the shoulder occurring in what appeared to be a psoriasis patch, but in neither his case nor Dr. Gray's does there seem to have been any sign of arsenical keratosis, although in the writer's case the patient had taken considerable doses of arsenic. Dr. Gray remarks that it is noteworthy that neither radium nor *x*-rays appeared to have any curative effect, nor did they relieve the pain, which was quite severe.—Wm. Barbour.

Rodent Ulcer of the Back in a Boy of 12 Years. By J. H. Sequeira, M.D., F.R.C.P., F.R.C.S. (*British Journal of Dermatology*, November, 1912).—The patient was first seen at the London Hospital on 1st October, 1912. The mother stated that when the boy was two years old she noticed for the first time a "mole" the size of a small pea over the left shoulder-blade. The growth was raised above the surface and "was crossed by a small blue vein." The tumour grew very slowly, and several times upon its being knocked off there had been slight bleeding, but complete and rapid healing had always occurred. In August, 1912, however, the lesion received a somewhat severe blow, and some yellowish discharge came from it for three weeks. The boy went to the seaside, and the sore rapidly healed. During the few weeks which followed the tumour had grown rather rapidly.

When seen on 1st October, 1912, there was a rounded, flat swelling, the size of a sixpence, on the back, three-quarters of an inch above the inferior angle of the left scapula. It had a well-defined, rounded, raised, and beaded edge of translucent pink colour, and on the lower margin of the growth the edge was crossed by fine vessels. A dry, brownish crust covered the middle of the growth, which had all the clinical characters of the rodent ulcer. There were no enlarged glands in the axilla. There were no other changes in the skin and no moles. Examination of a portion of the upper part removed confirmed the view that it was a case of rodent ulcer.

Sixteen milligrammes of radium upon a flat plate covered with varnish and again with a rubber cap were applied for four hours on 4th October. A strong reaction followed the application, and on separation of the crust the lesion appeared to be cured.

Dr. Sequeira states that the case is of considerable interest on account of the age of the patient and the situation of the growth; and mentions other two cases of rodent ulcer formerly recorded by him—one a boy with a rodent ulcer upon the ala nasi, first noticed at the age of twelve, and the other a girl of fifteen with the lesion upon the lower eyelid. This latter case was cured by radium in 1904.

Rodent ulcer is very rare off the face, and Dr. Sequeira has only seen one case on the back in this situation. It had involved a large triangular area extending from near the middle line to the angle of the scapula. The case was an adult male, and it resisted all attempts at cure.—Wm. Barbour.

On a Useful Formula for the Treatment of Widespread Tinea Tonsurans. By A. Winkelried Williams, M.B., D.P.H. (*British Journal of Dermatology*, June, 1912).—This formula—

℞.—Camphor.
Spt. vini rect. (vel. meth.), ... āā ℥ iv.
Acid. picric., ... gr. vii.
Sig.—Inflammable. To paint all over scalp twice daily—

was given a few months ago by a patient to Dr. Hobhouse, a colleague of Dr. Williams, and has been found remarkably efficacious. The first case treated was one of over three years' standing, and was still very bad. After three weeks' application it was apparently cured, but the application was continued once daily for another fortnight. The hair then started to grow well and thickly, and no ringworm stumps could be found. As a precaution at school, the patient was advised to use white precipitate ointment, ten grains to the ounce. There has not been any tenderness or discomfort during treatment. All the other cases did equally well. Generally the ringworm hairs are loosened and come away with the bulb in from ten to thirty days.

Dr. Williams directs the hair to be clipped absolutely close, and the application to be freely painted on twice daily, and the scalp washed once or twice a week, and a calico cap to be worn during treatment.

The only objection to the treatment is the yellow staining of the hair, which is still noticeable three weeks after stopping the treatment.

Camphor and spirit do not appear to be efficient without the picric acid. Spirit and picric acid alone the writer is now trying.

Dr. Williams has not so far investigated the *modus operandi* of the application, but considers the good results justify the publication of his preliminary note.—WM. BARBOUR.

Books, Pamphlets, &c., Received.

Papers on Psycho-Analysis, by Ernest Jones, M.D.Lond., M.R.C.P.Lond. London: Baillière, Tindall & Cox. 1913. (10s. 6d. net.)

The Transactions of the Edinburgh Obstetrical Society. Vol. XXXVII. Session 1911-1912. Edinburgh: Oliver & Boyd. 1912.

Pye's Surgical Handicraft: A Manual of Surgical Manipulation, Minor Surgery, and other matters connected with the work of House Surgeons and Surgical Dressers. Edited and largely rewritten by W. H. Clayton-Greene, B.A., M.B., B.C.Cantab., F.R.C.S.Eng. Sixth edition. Fully revised, with some additional matter and illustrations. Bristol: John Wright & Sons, Limited. 1912. (12s. 6d. net.)

The Baby: A Mother's Book by a Mother, by a University Woman. London: T. C. & E. C. Jack. (6d. net.)

A Manual of Infectious Diseases occurring in Schools, by A. G. Armstrong, M.R.C.S., L.S.A., and J. M. Fortescue-Brickdale, M.A., M.D. With chapters on Infectious Eye Diseases, by R. W. Doyne, M.A., F.R.C.S.; and Ringworm by H. Aldersmith, M.B., F.R.C.S. Bristol: John Wright & Sons, Limited. (3s. net.)

Hypnotism and Self-Education, by A. M. Hutchison, M.D. London: T. C. & E. C. Jack. (6d. net.)

Marriage and Motherhood: A Wife's Handbook, by Hugh S. Davidson, M.B., F.R.C.S.Ed. London: T. C. &. E. C. Jack. (6d. net.)

Clinical Medicine: A Manual for the Use of Students and Junior Practitioners, by Judson S. Bury, M.D.Lond., F.R.C.P., B.Sc.Vict. Third edition, edited by Judson S. Bury and Albert Ramsbottom, M.D., M.R.C.P. With numerous illustrations (some in colour) and 10 plates. London: Charles Griffin & Co., Limited. 1912. (17s. 6d. net.)

Illness and Death of Napoleon Bonaparte (a Medical Criticism), by Arnold Chaplin, M.D.Cantab. With three illustrations. London: Hirschfeld Bros.; Glasgow: Alex. Stenhouse. (2s. 6d.)

Vaccine Therapy: Its Theory and Practice, by R. W. Allen, M.D., B.S.Lond. Fourth Edition. London: H. K. Lewis. 1912. (9s. net.)

Lectures on Clinical Psychiatry, by Dr. Emil Kraepelin. Authorised translation from the second German edition, revised and edited by Thomas Johnstone, M.D.Edin., M.R.C.P.Lond. Third English edition. London: Baillière, Tindall & Cox. 1913. (10s. 6d. net.)

London Medical Publications: Treatment after Operation, by William Turner, M.S., F.R.C.S., and E. Rock Carling, B.S., F.R.C.S. With a chapter on the Eye, by L. V. Cargill, F.R.C.S. London: Henry Frowde and Hodder & Stoughton. 1912. (10s. 6d. net.)

London Medical Publications: Diseases of Women, by Thomas George Stevens, M.D., B.S.Lond., F.R.C.S.Eng., M.R.C.P.Lond. With 202 illustrations. London: Henry Frowde and Hodder & Stoughton. 1912. (15s. net.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FOUR WEEKS ENDED 11TH JANUARY, 1913.

	WEEK ENDING			
	Dec. 21.	Dec. 28.	Jan. 4.*	Jan. 11.*
Mean temperature, . .	41·5°	42·5°	43·4°	42·9°
Mean range of temperature between highest and lowest,	9·0°	10·5°	8·3°	8·2°
Number of days on which rain fell, ...	7	6	5	3
Amount of rainfall, . ins.	2·11	0·89	0·74	0·31
Deaths registered, . . .	312	285	334	342
Death-rates, ...	20·7	18·9	17·1	17·4
Zymotic death-rates, . .	1·6	1·1	1·8	1·1
Pulmonary death-rates, .	6·4	5·2	4·8	4·6
DEATHS—				
Under 1 year, . . .	61	57	84	68
60 years and upwards, .	85	72	84	91
DEATHS FROM—				
Small-pox, ...	...	...	...	...
Measles, ...	...	3	1	2
Scarlet fever, . . .	1	4	3	3
Diphtheria, ...	7	3	4	4
Whooping-cough, . .	15	7	18	15
Enteric fever, ...	...	1	1	...
Cerebro-spinal fever, . .	...	...	2	1
Diarrhœa (under 2 years of age),	2	2	5	3
Bronchitis, pneumonia, and pleurisy, ...	86	72	77	83
CASES REPORTED—*				
Small-pox, ...	...	...	...	...
Cerebro-spinal meningitis, .	2	...	2	2
Diphtheria and membranous croup, ...	36	30	35	34
Erysipelas, ...	27	29	31	27
Scarlet fever, ...	80	67	58	81
Typhus fever, ...	...	...	...	...
Enteric fever, ...	9	6	1	5
Phthisis, ...	75	66	38	71
Puerperal fever, . . .	3	2	5	2
Measles,† . . .	230	225	71	246

* Including those in added area.

† Measles not notifiable.

SANITARY CHAMBERS,
GLASGOW, 30*th January*, 1913.

THE

GLASGOW MEDICAL JOURNAL.

No. III. March, 1913.

ORIGINAL ARTICLES.

TWO UNUSUAL FORMS OF SPINA BIFIDA.[1]

By GEO. H. EDINGTON, M.D., F.R.F.P.S.G.,
Assistant Surgeon, Western Infirmary; Extra Honorary Surgeon, Royal Hospital for Sick Children, Glasgow.

The examples of spina bifida usually met with present little or no difficulty in diagnosis. The two cases which I am about to relate differed in certain respects from the ordinary type, and their exact nature was not diagnosed so speedily or so easily as usual.

Case I.—*Spina bifida occulta in upper cervical region—Irregular formation of laminæ—Large mass of fat covering vertebral defect.*

Sarah K., aged 4 months, was seen in August, 1909, on account of swelling at the back of the neck. At birth a slightly prominent fold of skin at the nape of the neck was observed, and thought to be part of a general condition of obesity. By the time two months had passed, the swelling had increased in size to such an extent that it was recognised clearly to be abnormal.

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[1] A communication made to the Medico-Chirurgical Society of Glasgow, 4th October, 1912.

When I saw the patient she was a fat, well-developed, healthy infant. The skull was normal in appearance, and, beyond a slight tendency to talipes of the right foot, there was no malformation of the body or limbs.

The appearance of the parts in the cervical region is well shown in the photograph (Fig. 1). The whole length and breadth of the back of the neck was occupied by a prominent swelling, which at its upper end overlapped the occipital region of the head. The swelling was covered by skin of normal thickness, slightly eczematous, but without hypertrichosis, and was distinctly fluctuant, but not indubitably translucent. The absence of any increase in size on crying, or of any visible disturbance of the central nervous system on handling the swelling, led me to presume that the latter communicated not at all or only slightly with the spinal canal. On palpation a bony or cartilaginous process could be felt to the right of the middle line deep in the swelling, and fairly movable. A diagnosis of meningocele was made. This diagnosis seemed to be confirmed by a skiagram (Fig. 2),

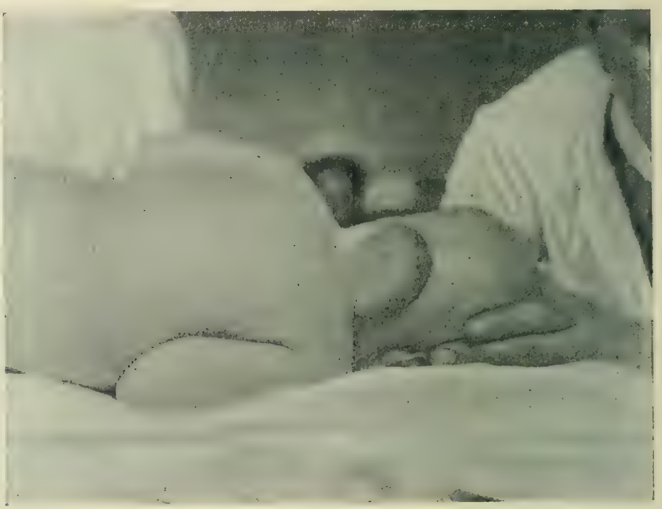

FIG. 1 (Case I).
Photographed under anæsthetic.

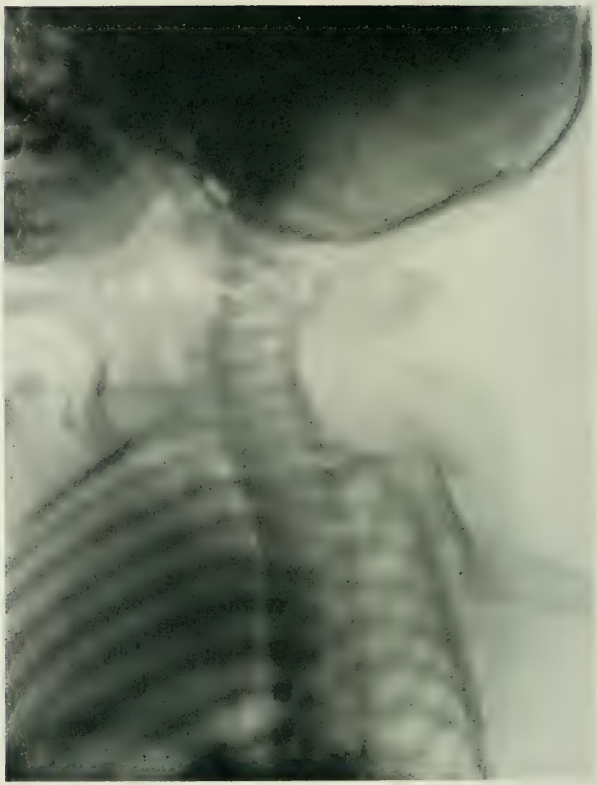

FIG. 2 (Case I).

Skiagram by Sister Cunningham, showing irregularity of second and third cervical vertebræ.

To illustrate Mr. Edington's communication.

which showed the presence of irregularly-shaped pieces of bone situated in the depths of the swelling. One of these was apparently separate from the underlying vertebræ; the other was in close relationship with the third vertebra. The skiagram showed also a deficiency of the laminæ and spinous process of the second vertebra.

Operation.—The skin was incised transversely, but no sac was come upon, and the swelling was found to be composed of fat, with irregular bony laminæ embedded in its deeper part. The fat and an ellipse of skin were removed along with the contained bone, exposing the meninges, not unduly prominent, at the bottom of a gap in the laminar region of the second and third vertebræ. The meninges were accidentally punctured, and there was an escape of cerebro-spinal fluid; the puncture was closed by suture. The cervical muscles which had been separated by the fat were sutured together over the gap.

For a week or so cerebro-spinal fluid tended to accumulate in quantity under the skin, and was evacuated at each dressing by inserting a sinus-forceps between two of the skin sutures. The leakage then ceased, and the child made a satisfactory recovery.

Comment.—The presence of a mass of fat over a spina bifida is not uncommon. Bland-Sutton[1] mentions its occurrence, especially in the lumbo-sacral region. He refers to its being mistaken for a lipoma, and cautions surgeons to remember that a lipoma in the middle line of the back may really be a mass of fat overlying a spina bifida sac. If this be not borne in mind the dura mater may, during removal of the mass, be unexpectedly opened. In the present case the fat was not circumscribed as in an ordinary lipoma; it would more properly fall to be described as a mass of fat. Its firm attachment to the dura, however, shown by the puncturing of the latter during the removal of the mass, would justify its being termed a "meningeal lipoma."

As regards the bony structures in the depths of the fat, they did not conform in shape to any part of the normal vertebral skeleton, being flat and curved in the form of a sickle. One of them was close down to the third vertebra; the other was at some distance from the second vertebra. Both were attached by fibrous tissue to their corresponding vertebræ. They must, notwithstanding their shape, be looked

[1] Bland-Sutton, *Tumours Innocent and Malignant*, fifth edition (London, 1911), p. 22.

upon as representing the laminæ and spinous processes of the vertebræ.

Case II.—*Lumbo-sacral spina bifida, presenting large unilateral swelling in right gluteal region—Deformity of corresponding lower limb.*

Catherine T., aged 4 months, was seen in March, 1912. At birth a swelling was present in the region of the right hip. The swelling increased in size fairly rapidly till it became as large as the child's head.

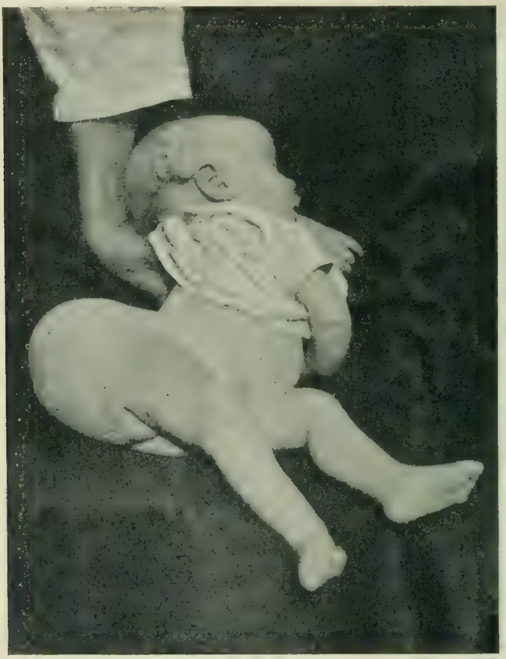

Fig. 3 (Case II).

Photograph to show cyst occupying right buttock and hip, and size of cyst relative to body; also position adopted by right lower limb.

Examination showed a large, tense, rounded swelling occupying the right buttock, and apparently springing from the back of the innominate bone, above the level of the hip-joint (Fig. 3). The swelling, which was covered by normal skin, was translucent. The right lower limb was markedly everted and was held extended, in contrast with its normally flexed fellow.

The frontal region of the head seemed to overhang the face, but there was no definite indication of hydrocephalus.

At first the unilateral position and apparent connection of the swelling with the innominate bone suggested a tumour (probably sarcomatous) of that bone. Exploratory tapping under an anæsthetic was done, and 18½ oz. of clear, colourless fluid were drawn off. Its characters were—specific gravity, 1008; alkaline, and albuminous. Palpation after tapping showed that there was a gap in the right side of the sacrum, and the true nature of the swelling was recognised. Examination *per rectum* of the pelvis was negative. The lax skin over the emptied sac was painted with collodion, to exert pressure against redistension.

When the child was coming out of chloroform, clonic spasms of the hands and arms were noticed.

Three days later the fluid had re-accumulated, and the swelling was as large as before. Radical measures were afterwards undertaken. The cyst was exposed through an incision, and its wall was seen to be covered by spread-out muscular fibres (gluteus maximus). These were pushed aside, and the sac was partly separated from its surroundings. To facilitate this, fluid to the amount of 18½ oz. was withdrawn by trocar and cannula. The collapsed sac wall was then slit open, and was seen to communicate with a deeper and smaller cavity by an opening from which cerebro-spinal fluid issued. To the left of this opening a nerve cord ran downwards in the ventral wall of the large sac. This cord was separated up and the large sac cut away, opening the deeper cavity, which contained a number of nerves. A flap of fat and fascia was stitched over this cavity, the excess of skin was cut away, and the incision closed.

The child died within twenty-four hours.

Examination of the parts after death showed that the spinal cord had been implicated in the protrusion, the latter belonging therefore to the class of *meningo-myelocele.* The cord extended down to the level of the third sacral vertebra, and was closely connected with the anterior wall of the large sac. The smaller cavity, crossed by nerve fibres, and communicating with the cavity of the large sac, was the distended sub-arachnoid space.

After the cord and membranes had been removed from the spinal canal, the opening into the latter was found to involve the whole of the sacral region and the fourth and fifth lumbar vertebræ. It measured 5 cm. longitudinally, by 3·75 cm. across. Its upper margin was composed of firm fibrous tissue, curving upwards and inwards from the short and widely separated laminæ of the fourth lumbar to the fibrous junction of the extremities of the laminæ of the third vertebra. The gap was not median, but looked towards the right. The laminæ on the right side of the affected lumbar and sacral vertebræ were very short and rudimentary as compared with those of the left. The latter, while of good size, pointed directly backwards. On the ventral wall of the spinal canal there was an osseo-cartilaginous prominence at the lumbo-sacral junction. The prominence extended transversely across the wall, but tapered off before reaching the right side. It was much more abrupt below than above.

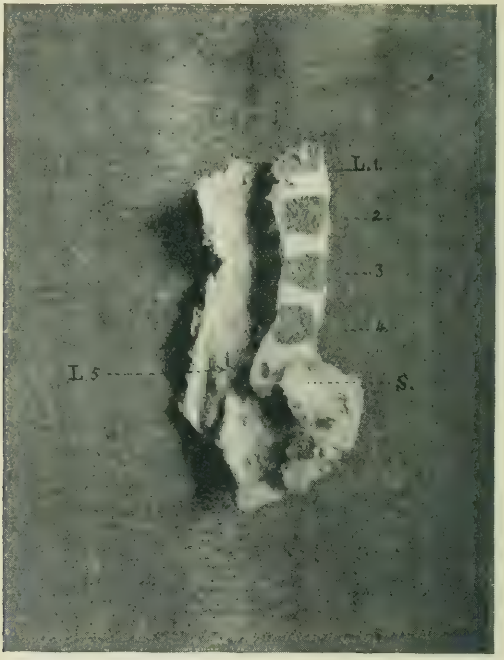

Fig. 4 (Case II).

Profile section of bones, showing displacement of sacrum, *S.* *L* 5, points to body of fifth lumbar, slightly, if at all, off the line of lumbar vertebræ. The relatively small area of bony tissue is accounted for by the section passing near the apex of the wedge.

Irregularity of the spinal column was well marked. There was marked scoliosis of the lower lumbar region, with the concavity to the right. The sacrum was displaced forwards and upwards in front of the fifth lumbar vertebra, and was rotated on its long axis so that its front (pelvic surface) was distinctly directed towards the right. A sagittal section (Fig. 4) of the lumbo-sacral part of the vertebral column showed the dislocation of the sacrum on to the front of the fifth lumbar vertebra, the latter forming the osseo-cartilaginous projection, already mentioned, in the floor of the spinal canal. A coronal section (Fig. 5) of the bodies of the lumbar vertebræ as far down as the base of the sacrum (*i.e.*, excluding the fifth, which was behind the sacrum) showed them to be complete, and did not throw much light on the origin of the scoliosis.

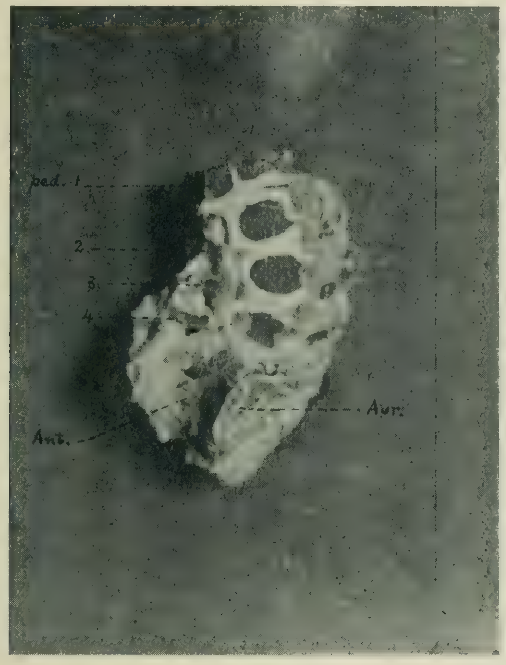

FIG. 5 (Case II).

Front view of bones. Coronal section of bodies of first four lumbar vertebræ, to display ossifying centra. The positions of lumbar pedicles of right side indicated by numbers (ped. 1, 2, 3, 4). The ossified base of first is of large size. *Ant.*, anterior surface of sacrum directed towards right. *Aur.*, left auricular surface.

Detailed examination, however, *of the bones* cleared up the matter. The fifth lumbar vertebra, projecting in the floor of the spinal canal, was wedge-shaped, with the apex towards the *right* side, where also there was deficiency of the pedicle and various processes arising from it. On the *left* side the lamina was very deep, and also abnormally massive. Viewed *externally*, its vertical measurement was almost double that of the fourth vertebra, and it was ankylosed to the lower margin of that lamina, the two forming a stout vertical plate. The anterior part of the lower margin of the plate slightly overhung the articular process of the sacrum. Nearer the middle line than this articular process was a flat plate of bone extending downwards and backwards from the left pedicle of the fifth vertebra, and fusing below with spinous processes of the sacrum. It is difficult to say what this lower plate represents—probably the fifth lumbar spinous process. Viewed *internally* from the spinal canal, it was seen that a fan-like piece of bone sprang from the pedicle. The upper part formed the lamina, which was ankylosed with that of the fourth vertebra; the lower extended downwards, forming the presumed spinous process just referred to.

On the *right* side there were neither pedicle nor processes of the fifth vertebra. The pedicle of the fourth lumbar formed a horizontal bar which extended outwards like a transverse process, and at its termination fused with the lateral mass of the sacrum. As shown in Fig. 5, the pedicles on the right side of the lumbar vertebræ were not normally arranged. That of the fourth arose at the lower margin of the body of the vertebra; the third arose between the third and fourth vertebral bodies, and the second opposite to the upper margin of the third body.

Sacrum and coccyx.—Viewed from the front, the *sacrum* seemed to consist of four vertebræ, the bodies of the first and second of which were fused; but, while the third was apparently complete, the fourth was very irregular, and seemed to have been cut away on the right side during removal of the specimen from the body. On the left side three transverse processes were apparent; on the right there were also three processes, but the first was divided into upper and lower parts, so as to give the appearance as of an additional process. The *coccyx* was not recognisable; it may have been cut away and left behind when the bones were removed from the body.

Dr. W. F. Somerville very kindly made skiagrams of the specimen (Figs. 6 and 7), and these show well the arrangement

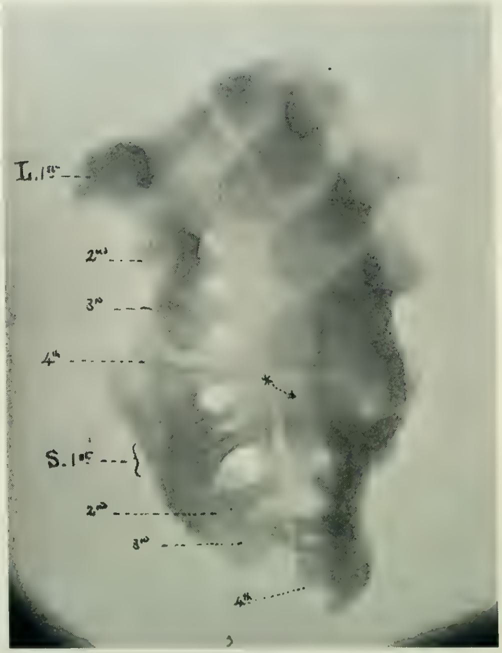

Fig. 6 (Case II).

Skiagram by Dr. W. F. Somerville. Front view. ✶ points to shadow of bony tissue in fifth lumbar body, partly hidden by that of first sacral.

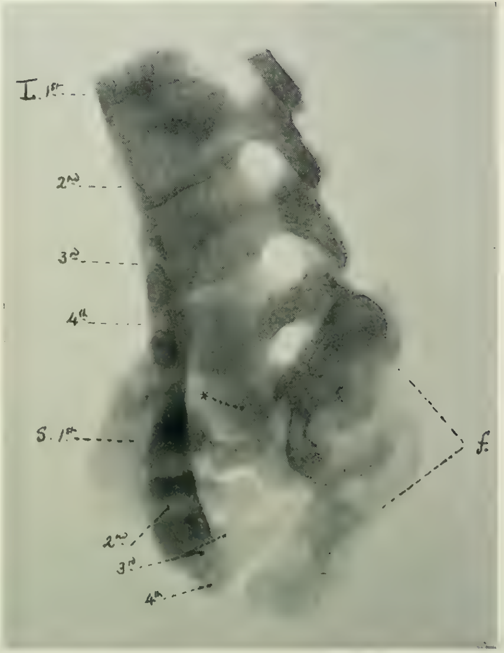

Fig. 7 (Case II).

Skiagram by Dr. W. F. Somerville. From left side. ✶ fifth lumbar body. *f.*, fan-shaped bone springing from left pedicle of fifth lumbar.

of bony tissue. In Fig. 6, which was taken with the plate lying on the front of the specimen, the ankylosis of the fourth lumbar transverse process on the right side with the sacral transverse process is well shown; also the division of the latter into two separate bars. A considerable thickness of cartilage separates this transverse process from the bony body of the vertebra. The second sacral body is not ossified, and the cartilage intervening between the transverse processes of opposite sides is quite distinct. The bony tissue of the third transverse process of the right side crosses the middle line and then bifurcates. Of the fourth vertebra, the left half alone is represented. The body of the fifth *lumbar* vertebra forms a shadow which is rather ghostly, and the lower half of which is overlapped by that of the first sacral.

Fig. 7 is a profile view taken from the left side. It shows the fan-shaped bone arising from the left pedicle of the fifth lumbar vertebra. The processes of the four sacral vertebræ are also distinct; but the region of the sacral bodies is obscured by the shadows of the transverse processes of the right side.

Consideration of the above details shows that we have—

1. Displacement forwards and upwards of the sacrum in front of the fifth lumbar vertebra.
2. Incompleteness of the right side of the fifth lumbar vertebra, approximating to the condition of a "half-vertebra."
3. Abnormal, fan-shaped formation of bone arising from the pedicle of the left side of the fifth lumbar vertebra, fusing above with the lamina of the fourth vertebra, and below with the spinous processes of the sacrum.
4. Ankylosis of the right transverse process of the fourth lumbar with the lateral mass of the sacrum.
5. Abnormal origin of pedicles on the right side of the second, third, and fourth lumbar vertebræ.
6. Scoliosis, due in part to the deficiency of the right side of the fifth vertebra, and in part to abnormal growth of bone on the left.
7. Rotation of the sacrum to the right, due to the abnormal growth from the left pedicle of the fifth lumbar.
8. Dislocation forwards of the sacrum, probably connected causally with 7; but this is not clear.

Comment.—Clinically, the chief point of interest is the *lateral situation of the swelling.* The protrusion of a spina bifida is so often median that the surgeon may be pardoned if he comes to regard such a position as constant.

It might seem likely that with the sacrum rotated towards the right the projection of the tumour would be directed to the left; but the fact that *the defect in the neural arches was not median*, the laminæ on the right side being quite rudimentary, while those on the left were of good size, clears up the apparent anomaly of the protrusion taking a direction against that of the rotation of the sacrum. This fact accounted also for the protrusion being covered by the fibres of the gluteus maximus.

The eversion and extended *position of the right lower limb* are to be explained by the stretching of the gluteus maximus over the enormous protrusion.

Lateral protrusion in spina bifida is interesting on account of its rarity. According to Ballantyne[1] the osseous defect is sometimes situated laterally, and he mentions a case which Mr. Cotterill had shown him in 1896. From the published account[2] of this case it would seem that the defect was situated "opposite the right sacro-iliac synchondrosis." The rectum could be invaginated, by a finger in the bowel, through the "bony aperture in the sacrum on to the posterior surface of that bone." Details, however, are wanting regarding the exact situation of the gap in the bone. The tumour was about the size of an orange, and was covered by normal skin.

Bland-Sutton (*loc. cit.*, p. 643) figures a case of Virchow's, an African child with a pedunculated tumour (an occluded spina bifida sac) attached to the left buttock. Virchow,[3] however, supplies no details regarding the vertebral column.

As regards the *malposition of the fifth lumbar vertebra*, it must be borne in mind that the projection in the spinal canal might at first sight be looked upon as one of the "bony outgrowths across the spinal canal in the neighbourhood of the tumour,"[4] an unusual variation, mentioned by several authors.[5] The projection differs, however, from these outgrowths, and presents rather the characters of the

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[1] Ballantyne, *Manual of Antenatal Pathology and Hygiene. The Embryo* (Edinburgh, 1904), p. 293.

[2] *Transactions of the Medico-Chirurgical Society of Edinburgh*, vol. xv (new series), 1896, p. 49.

[3] Virchow, *Archiv für Path. Anatomie*, 1885, vol. c, p. 571.

[4] Report of the Committee on Spina Bifida, *Transactions of the Clinical Society of London*, 1885, vol. xviii, p. 357.

[5] Ballantyne, *loc. cit.* (references); also Bland-Sutton, *loc. cit.*, p. 646.

"osseo-cartilaginous growth" described by Humphry,[1] and looked upon by him as displaced, or as supernumerary vertebræ. A study of the relationships of the bones, as shown in sagittal section (Fig. 4), leads me to the conclusion that in the present specimen the projection of the fifth lumbar vertebra is not primary, but is *secondary to displacement of the sacrum.*

I had not the opportunity of examining the upper parts of the vertebral column, and am unable to say if any abnormalities were there present.

The *malformation* (deficiency) of this vertebra is in keeping with the findings of the London Committee (*loc. cit.*, p. 358), and is also referred to by Bland-Sutton (*loc. cit.*, p. 645). Tubby[2] figures a specimen of Disse's, in which the last lumbar vertebra showed "sacralisation," and was wedge-shaped, the base of the wedge being fused with the lateral mass of the sacrum. In the specimen which I have just described there is no fusion of the fifth vertebra with the sacrum; but fusion had occurred between the sacrum and the fourth vertebra, and the resulting curvature corresponds with that in the case recorded by Perronne, in which there was ankylosis between the fifth lumbar and first sacral vertebræ, the spine being sharply tilted to the affected side (*vide* Tubby, *loc. cit.*, p. 13).

Another interesting point is the *extension of the spinal cord to the lower part of the spine.* This abnormal length of the cord agrees with observations already made by others. Thus, Ballantyne (*loc. cit.*, p. 299) mentions that it may be "too long for the canal," and Bland-Sutton[3] has described a case of spina bifida occulta in which the cord extended to the extremity of the coccyx, and another[4] case in which there was a large meningocele in the sacral region, and in which the cord terminated "near the tip of the sacrum."

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[1] Humphry, *Journal of Anatomy and Physiology*, 1886, vol. xx, p. 585 *et seq.*

[2] Tubby, *Deformities, including Diseases of the Bones and Joints*, second edition (London, 1912), vol. i, p. 463.

[3] *Transactions of the Pathological Society of London*, 1888, vol. xxxix, p. 432.

[4] Bland-Sutton, *Tumours Innocent and Malignant*, fifth edition (London, 1911), p. 643.

SPORADIC CONGENITAL DEAFNESS AND DEAFNESS FROM SYPHILIS.

By JAMES KERR LOVE, M.D.

(*Concluded from* p. 108.)

It is doubtful if any disease, even tuberculosis, is so destructive of child life or so disastrous to child health as syphilis. Tuberculosis may appear in a larger number of families, although even this may be doubtful. By far the commonest cause of death amongst these young children is meningitis, or some form of head affection going under the name of fits, convulsions, &c. Is there not here a partial explanation of the great number of deaths from meningitis which I have noticed in an earlier lecture? And yet this disease, so destructive to child life, and so disastrous to child health, is not notifiable, and amongst the poor is hardly ever treated. When I add that it is both preventable and curable, surely I may urge that it is time it were dragged out of its hiding-place, and spoken of freely even amongst educated lay people like any other infectious disease.

A study of these family trees points to the following conclusions:—

1. Syphilis is an infectious disease, which, having entered the blood of the parents, is transmitted to the children.

2. Amongst the children it stunts, and dwarfs, and kills. Many of them are stillborn, many die within a few months or during the first year, and of those who survive some become blind, some deaf, some both blind and deaf, whilst some continue in apparently good health.

3. The Wassermann reaction or test nearly always gives a positive result when the combination of keratitis (blindness) and deafness occurs in the child of syphilitic parents. Occasionally the result is negative in the presence of the combination. It sometimes gives a positive result in the apparently healthy brothers and sisters of those affected by blindness or deafness, thus showing that they are really infected, and that at a later date symptoms may develop.

4. A common cause of death amongst these syphilitic children is meningitis. I think it is the commonest cause of their death, and this disease occurs most commonly during the first or second years.

5. Untreated or insufficiently treated syphilis in the parent may be discovered by the Wassermann reaction many years after infection. Healthy and diseased children may be born at any stage of the family history, but the usual family record is that the earliest children are stillborn, then diseased children, and, lastly, healthy children. The later children have the best chance to live.

Now these are not all the conclusions which may be drawn from a study of these trees, but they are those which, I think, bear most directly on the subject of these lectures—the prevention of deafness. How, then, are we to prevent such deafness? *By the notification of the disease when it appears in the children, and by the immediate treatment of both mother and child.* "Fresh legislation," someone may say. "Further interference with the liberty of the subject." "Further prying into family affairs." Nothing of the kind, although, were fresh legislation necessary, the case seems urgent enough to warrant it. But in recent legislation we have the machinery for our purpose ready to hand. Like most of my profession, I have many faults to find with the National Insurance Act. But maternity benefit will be claimed, even for dead-born children, and for all children who die shortly after birth; and if the Commissioners insist on a certificate of the cause of death, the syphilitic families will be discovered, and without any public disclosure of the reason for the step, treatment will be instituted which will counteract the poison in the blood of the mother, and will save the children of the future. The disease is very amenable to treatment, and it is because it is untreated that it passes down to the children.

It may be urged these are cases of acquired deafness; the deafness does not appear till the child has reached the school age. Notice how many of these children die young, and especially how many of them die of meningitis, and refer for a moment to our ignorance (I pointed it out in a former lecture) with regard to the causation of meningitis. Then listen to what the pathologist tells us about the *post-mortem* examination of the brain in syphilitic children who die.

"Mayer [quoted by Fraser[1]] has examined microscopically the inner ears of eleven cases of congenital syphilis occurring in infants; in nine of the eleven purulent otitis media was present, but this condition is found in 90 per cent of infants at autopsy. In only one case was the tympanic membrane perforated, and in no case was there any bone disease or inflammatory invasion of the labyrinth from the middle ear. On the other hand, he comes to the following conclusions:—

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[1] Fraser, "Congenital Syphilitic Disease of the Ear," *Edinburgh Royal Infirmary Reports,* 1908.

"1. Inflammatory processes occur in the meninges of children affected by congenital syphilis.

"2. Specific interstitial inflammation of the acoustic nerve accompanies this meningitis.

"3. The inflammatory process thus spreads to the inner ear, most frequently giving rise to irritation, but sometimes to inflammatory exudation."

Mayer thinks that these changes are the same as those which give rise to late specific deafness, and that the conditions observed by Walker Downie — in a case first published by myself — are only the later stages of this process.

We have, therefore, in the meningitis of the young children of syphilitic families a link between the syphilitic blindness and deafness of the child of school age and the children who become deaf so soon after birth that they are regarded as congenitally deaf, and we may have a link to some cases of true congenital deafness.

Where can you see these congenital syphilitics who have become deaf after the speech habit has been formed, from 6 to 16 years old? They do not always become quite deaf, and even if they do their speech is not lost. They are found in the ordinary schools, where they make no progress. There are a few in the institutions for the deaf, where, because of their defective sight (we have seen that many of them have keratitis), and because of their damaged brain, they are put down as duffers. Many of them go to the institutions for the blind. There is a whole class of them at the Homerton Residential School for the Deaf, under Mr. Barnes, and we have several of them in the semi-deaf and semi-mute classes in the Glasgow day schools for these latter children. But no treatment we know of cures the defects of hearing and sight, and they nearly always die early, or become a permanent burden to the community. These cases are cases for prevention, not for cure.

Let me remind you here that we are discussing syphilis as a cause of deafness amongst the poor—untreated syphilis, plus poverty and overcrowding. Syphilis occurs amongst the well-to-do, but it does not cause much deafness there. It is a disease which yields to treatment. It is so amenable to treatment that after two or three years of constant supervision and treatment, marriage is usually followed by a healthy progeny. But this supervision and treatment is seldom possible amongst the poor. It is generally not attempted. Partly from ignorance, and partly because of the intrinsic difficulty of keeping it up, the patient either does not apply for treatment or cannot continue it. This is my own experience amongst the poor. Here is what Mr. Cheatle[1] says about it:—"I carefully inquired of the mothers of congenitally syphilitic children with internal-ear deafness whether treatment had been applied in infancy, and invariably the answer was in the negative." And if the child is not treated, no more is the mother. As a rule she does not know why her child is deaf. You see now why her children die or become deaf.

If congenital syphilis causes children to be stillborn, if it causes disease of the nasal passages (popularly known as snuffles) during the first weeks of life, if the children of syphilitic parents often waste away during the early months of life, if many of these children die of meningitis during the first twelve or eighteen months of life, is it not possible, nay, is it not probable, that when the children of syphilitic parents are born deaf, the cause of the deafness is the poison of syphilis?

If the poison of syphilis be present in the blood of the children of syphilitic parents (and the trees that I have given show that this is the case), it is the history of this poison which must claim our attention. We do not think of the birth of the child as altering the type of the disease, we rather regard the birth of the child as an accident in its existence. The style of feeding and the method of breathing have changed, a larger number of possible causes of deafness threaten the child in the new environment, but the nature of the deafness is not necessarily altered by the accident of birth. In syphilis, at least, the same poison has operated from the beginning of the child's existence, which is not the time of birth, but the time of conception.

The conclusions in this section are based on the examination of the blood of over 150 persons, about the half of whom were born deaf, and about a third of whom have become deaf since birth. The remaining cases were not deaf at all, but were related to others in the list who are deaf. The test was the Wassermann reaction, which was carried out by Drs. Browning and Cruickshank at the Clinical Research

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[1] Cheatle, "Syphilis in Relation to Otology," *Proceedings of the Royal Society of Medicine*, November, 1910.

Laboratory of the Glasgow Western Infirmary, and by Dr. Campbell, Assistant Bacteriologist to the Royal Infirmary. The material was collected from the children at the Glasgow Institution for the Deaf and Dumb, Langside, Glasgow, from the children seeking admission to the Glasgow School for the Semi-deaf and Semi-mute, and from the Ear Department of the Royal Infirmary. The following is a list of the cases:—

No.	Name.	Source.	Grounds of Suspicion.	Result of Wassermann Test.
1	T. McS.	D.D.I.	Paralysis of tongue and lips.	+
2	D. M.	do.	Born deaf. Brother deaf.	−
3	J. M.	do.	do.	−
4	G. H.	do.	Sporadic congenital deafness.	−
5	I. G.	do.	do.	−
6	J. S.	do.	Acquired deafness. Cerebro-spinal fever at 9 years.	−
7	R. McI.	do.	Sporadic congenital deafness.	−
8	A. W.	do.	Acquired deafness. Meningitis at 6 years.	−
9	J. W.	do.	Born deaf. Half-cousin deaf and dumb.	−
10	W. B.	do.	Acquired deafness. Middle ear disease.	−
11	A. McC.	do.	Acquired deafness at 8 years. Purulent middle ear disease.	−
12	R. W.	do.	Sporadic congenital deafness.	−
13	M. C.	do.	do.	−
14	M. D.	do.	do.	−
15	M. A.	do.	do.	−
16	G. M.	do.	do. Said to have been 10 deaths during infancy in the family.	Doubtful.
17	J. L.	do.	Sporadic congenital deafness. Has vowel hearing, is weak minded, was illegitimate.	−
18	R. K.	Glasgow School Board	Acquired deafness and keratitis.	+
19	M. K.		Family of R. K.	+
20	M. K.		do.	+
21	M. K.		do.	+
22	K. McI.	D.D.I.	Deafness and keratitis.	+
23	M. McI.		Family of K. McI.	+
24	I. Mc.I.		do.	−
25	A. McI.	...	Family of K. McI.	−
26	P. McI.		do.	−
27	M. McI.		do.	+
28	A. McL.	D.D.I.	Lost hearing at 2 years.	−
29	G. S.	do.	Meningitis. Date not given.	−
30	H. M.	do.	Sporadic congenital deafness.	−
31	I. F.	do.	do. Middle ear discharge.	−
32	A. G.	do.	Sporadic congenital deafness.	−
33	E. M.	do.	do.	−

No.	Name.	Source.	Grounds of Suspicion.	Result of Wassermann Test.
34	D. S.	D.D.I.	Lost hearing at 2 years from teething. Has tuberculous scars on both sides of neck.	
35	H. McK.	do.	Condition at birth doubtful.	
36	A. D.	do.	Has disease of cervical vertebræ.	Weak +
37	G. S.	do.	Meningitis at 11 months.	–
38	A. B.	do.	Brother and sister deaf and dumb. Mother also deaf. Father hard drinker.	–
39	M. D.	do.	Sporadic congenital deafness.	
40	D. M.	do.	3 maternal uncles hard of hearing.	–
41	M. W.	do.	Acquired deafness. Has tuberculous scar on neck.	–
42	J. B.	do.	Sporadic congenital deafness. Depressed nose. Scarring of angles of mouth.	–
43	P.	do.	Sporadic congenital deafness.	–
44	T. M.	do.	Has brother deaf in the school. Cause of deafness, pneumonia at 6 years.	
45	McK.	Private case.	Mentally defective.	
46	C.	D.D.I.	True hereditary deafness. Ayrshire family.	–
47	G.	do.	Acquired deafness. Assigned cause, fright at 3 years.	–
48	S.	Private case.	Otosclerosis?	–
49	L. W.	D.D.I.	Born deaf. Has sister and brother deaf mutes.	
50	M. W.	do.	do.	–
51	M. D.	do.	Born deaf. Sisters deaf.	+
52	J. D.	do.	do. do.	+
53	B. D.	School Board	Acquired deafness at 11 years. No keratitis. Sisters deaf.	–
54	A. D.	do.	Brother to above.	–
55	M. D.	...	Mother of above.	–
56	M. N.	D.D.I.	Sporadic congenital deafness.	–
57	J. F.	do.	do.	
58	S. G.	do.	Illegitimate. Condition at birth unknown.	–
59	S.	Private case.	Born deaf (sporadic).	
60	M. K.	D.D.I.	Unknown cause at 2 years.	
61	M. C.	do.	Born deaf. Has sister in institution.	
62	M. S.	do.	Acquired deafness. Became deaf at 9 years.	–
63	I. S.		Sister to above. Became deaf at 8 years.	–
64	J. S.		Sister to above. Became deaf at 2½ years.	–
65	M. S.		Father of above.	
66	M. S.		Wife of last case.	–
67	M. S.		Daughter of 65 and 66. Became deaf at 2½ years.	Doubtful.

No.	Name.	Source.	Grounds of Suspicion.	Result of Wassermann Test.
68	A. G.	Private case	Acquired deafness. Has keratitis.	+
69	M. G.	...	Mother of 68.	+
70	E. S.	D.D.I.	Sporadic congenital deafness. Deformed.	–
71	W. M.	do.	Born deaf and has brother deaf-mute.	–
72	I. W.	do.	Born hearing. Deafness has come on gradually and is said to be due to adenoids, but has a brother in another school for the deaf.	–
73	H. R.	D.D.I.	Sporadic congenital deafness.	–
74	A. McE.	do.	Deafness at 17 months, said to be due to measles. Sister of 2½ years probably deaf.	–
75	D. M.	do.	Hearing lost at 6 years. Cause unknown.	–
76	E. M.	do.	Suspected syphilis. Gradually lost hearing at 7 years. Has eye affection.	–
77	J. D.	do.	Meningitis at 2½ years.	Weak +
78	J. A.	do.	Condition at birth not known. Father insane.	Doubtful.
79	D. A.	do.	Sporadic congenital deafness.	–
80	I. C.	do.	Has two sisters deaf and dumb. Was born deaf.	–
81	J. T.	do.	Sporadic congenital deafness.	–
82	M. C.	School Board.	Born deaf. Suspected syphilis.	
83	C. C.	D.D.I.	Sporadic congenital deafness.	–
84	N. D.	do.	At 8 years became deaf and blind. Mother dead. Father disappeared. There is one brother.	–
85	A. J.	School Board.	Deaf from birth, but has vowel hearing.	–
86	R. D.	do.	Said to have had meningitis at 1 year.	–
87	M. McN.	do.	Sporadic congenital deafness.	–
88	R. G.	do.	Is mentally defective, semi-deaf, has vowel hearing. Grandparents deaf.	–
89	H. M.	do.	Semi-deaf and semi-mute. Has vowel hearing.	–
90	E. C.	do.	Is a mentally-defective child. Said to be semi-deaf from birth.	Doubtful.
91	J. R.	do.	Fall at 3 months. May have been born deaf.	
92	J. H.	do.	Suspected syphilis. Teeth specific. Left eye hazy, palate high. Cannot close mouth.	Weak +
93	M. R.	...	Known to have had syphilis, which I treated. Leucoplakia of old standing.	–

No.	Name.	Source.	Grounds of Suspicion.	Result of Wassermann Test.
94	M.	School Board.	Said to have lost hearing at 15 months.	–
95	B.	do.	Sporadic congenital deafness.	–
96	O. B.	do.	Motor aphasia.	–
97	M. M.	do.	Deaf. Has cleft palate, hare-lip, and is rickety.	–
98	J. G.	do.	Acquired deafness and keratitis.	+
99	A. G.		Sister to above.	–
100	G. G.		Brother to 98.	+
101	P. G.		do.	–
102	M. G.		Mother of 98.	+
103	G.	do.	Meningitis at 11 months, said to be due to cerebro-spinal fever.	–
104	McD.	do.	Sporadic congenital deafness.	–
105	S. M.	Royal Infirmary.	Born deaf.	–
106	M. M.	do.	Mother of 105.	–
107	M. G.	do.	Mother of 108.	+
108	A. G.	do.	Born deaf.	–
109	I. G.	Royal Infirmary.	Acquired deafness. Interstitial keratitis.	+
110	J. G.		Brother to 109.	Doubtful.
111	A. G.		do.	+
112	M. G.		Mother of 109.	+
113	E. McN.	do.	Became rapidly deaf at 13 years.	+
114	F. C.	School Board.	Acquired deafness with keratitis.	+
115	J. D.	do.	Acquired deafness. Disease of bones and glands.	+
116	S. K.	Royal Infirmary.	Acquired deafness without keratitis.	+
117	M. K.		Sister to 116. Acquired deafness without keratitis, mastoid disease.	+
118	M. K.		Mother of 116.	+
119	M. F.	School Board.	Acquired deafness with keratitis.	+
120	J. G.	do.	do.	+
121	J. D.	Royal Infirmary.	do.	+
122	G. L.	do.	do.	Doubtful.
123	A. A.	do.	Lost hearing at 13 years, and has keratitis.	Doubtful.
124	R. McL.	School Board.	...	–
125	L.	Private Practice.	Head injury, with deafness and giddiness.	–
126	J. J.	School Board.	Supposed whooping-cough at 15 months.	
127	C. M.	do.	Sporadic congenital deafness.	Weak +
128	M. McQ.	do.	Keratitis of two or three years' duration, deaf for eight months.	+
129	R. B.	Tollcross Deaf School.	Keratitis and deafness.	+

No.	Name.	Source.	Grounds of Suspicion.	Result of Wassermann Test.
130	M. McQ.	Royal Infirmary.	Mother to 128.	+
131	J. R.	do.	Has tonsils and adenoids for operation. Has a deaf-mute brother at Langside. Miscarriage.	–
132	W. L.	do.	Has deafness of two year's standing. Keratitis of older date.	+
133	M. M.	...	Mother of 16.	–
134	L. McM.	School Board.	Keratitis and getting deaf.	+
135	M. S.	...	Father of 137-141.	–
136	M. S.	...	Mother of 137-141.	–
137	J. S.	...	Born deaf. Brother to 141.	–
138	J. S.	...	Born deaf. Sister to 141.	Doubtful.
139	J. S.	...	Brother to 141, but hears.	–
140	A. S.	...	Born deaf. Brother to 141.	–
141	A. S.	D.D.I.	Born deaf. (See 135-140.)	+
142	M. C.	...	Mother of 90.	–
143	M. H.	...	Mother of 92.	+
144	T. M.	...	Brother to 16. Son of 133.	+
145	M. M.	G.R.I.	Has lost both eyes. Has mastoiditis on one side.	Weak +
146	Mrs. D.	...	Mother of case 36.	–
147	A. D.	...	Brother to case 36.	–
148	C. D.	...	do.	+
149	Mrs. A.	...	Mother of 150 and 151.	–
150	J. A.	D.D.I.	Sporadic congenital deafness.	+
151	R. A.	School Board.	Sister to 150. Getting deaf recently. No keratitis.	–
152	John R.	do.	Getting deaf. No keratitis.	–
153	Jeanie R.	do.	do.	Weak +
154	Mrs. R.	...	Mother of 152 and 153.	–
155	Mrs. H.	Private.	Meningo-myelitis.	+
156	Mrs. R.	G.R.I.	Mother of 131.	+
157	R. R.	D.D.I.	Sporadic congenital deafness. Brother to 131.	+

Note.—Three or four cases throughout this list fall—like case 155—to be deducted as not being associated with deafness at all.

Generally speaking, the search for evidence of syphilis amongst the congenitally deaf, who are not hereditarily deaf, was not so fruitful as amongst the cases of acquired deafness and keratitis due to syphilis, but it—the evidence—was quite definite. The impression was formed that, although the inquiry established the fact that congenital syphilis does cause congenital deafness, the latter is usually an evidence of expiring syphilis, and that the Wassermann reaction does not discover all the cases of congenital deafness which are due to congenital syphilis.

The following cases point to the conclusion that congenital syphilis causes congenital deafness:—

S— Family (Cases 62 to 67 and Tree 13).—I quote this family first because, although probably no child was born deaf, deafness occurred in two children as early as 2½ years, and in the remaining two at 8 and 9 years respectively. It is true that only one of the four children gave a positive reaction, and that this positive was weak or even doubtful. Many years ago, before the Wassermann reaction was known, I treated one of these girls for syphilis. There was never any keratitis present in any of the four children, and presumably there was no active process going on when the Wassermann test was applied. I quote the family as an instance of expiring syphilis, and look on the cases as a link between the cases of deafness and keratitis occurring in adolescence and the cases of true congenital deafness due to syphilis which I am about to quote.

Case 16 and Tree 20.—Here the reaction is doubtful, but there have been nine deaths and five miscarriages in a family of 20. The child himself had meningitis at four months, and this is presumably the cause of the deafness. The family history and the doubtful reaction seem to me to point to syphilis as the cause of the meningitis. It is of course possible that the child was born deaf. I rather assume, however, that the deafness was due to syphilitic meningitis. A young unmarried brother of this boy's gives a positive reaction. See Case 144.

The D— Family (Cases 51 to 55 and Tree 5).—Here, two deaf-born children gave a positive reaction, a child who becomes rapidly deaf at 11 years, but who has never had keratitis, gives a negative reaction, but the mother gives a well-marked positive reaction. The proof that syphilis is the cause of the congenital deafness seems complete in spite of the fact that the case of recently acquired deafness gives repeatedly a negative reaction.

Case 36 and Tree 21.—This girl was chosen for examination because she had a curvature of the cervical vertebræ, which clinically had been diagnosed as syphilitic. Her blood gave a positive reaction. There is no other deaf-mute child in the family, but one died of convulsions in infancy. An apparently healthy brother gives a positive reaction.

G— Family (Case 108 and Tree 3).—Here, out of five pregnancies there is only one healthy child, and he is only a year and a half old. There have been two miscarriages, one child died at 2½ years of meningitis, and the only remaining child was born deaf. The mother gives a positive reaction, although the deaf-born child is negative. It is difficult to imagine a more conclusive proof of the syphilitic origin of congenital deafness, and the idea that such deafness is due to an expiring, and now actually burnt-out infection, is suggested by the negative result of the blood test in the case of the child.

Cases 135 to 141 and Tree 19.—Without the Wassermann test one might believe that this group of cases exhibited a mutation—that before one's eyes a new deaf family was being formed. In spite of the death of three children in very early life, two of whom died of meningitis, the occurrence of four deaf-born children in a living family of five strongly suggests heredity. The most careful inquiry, however, failed to find a single deaf relative, and no case of epilepsy or feeble-mindedness could be found. The application of the Wassermann test, however, accounts not only for the deaf-born children, but for the deaths from meningitis. The family is a good example of congenital deafness due to syphilis.

I do not think these cases exhaust the congenital deafness due to syphilis in Langside Institution. Indeed, since this lecture was delivered, two cases occurring in my hospital practice have sent me back to Langside, with the result that in each case evidence of syphilis as a cause of congenital deafness has been got.

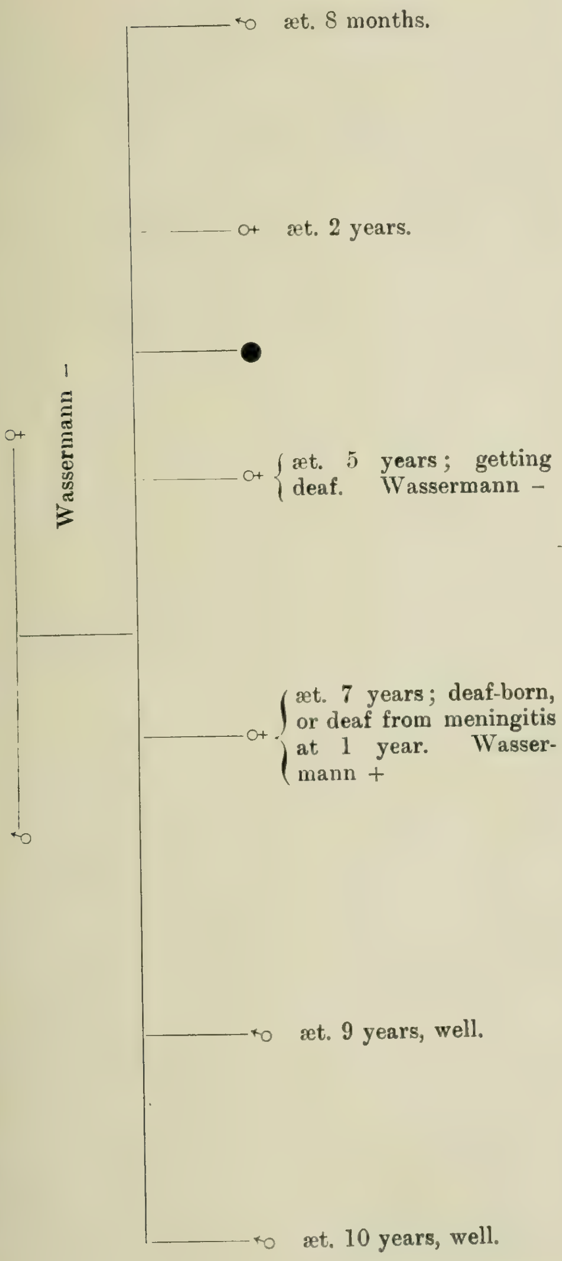
Case 150.—My attention was directed to this girl by her sister (Case 151) coming to the infirmary because of recent deafness. The latter's blood gave a negative reaction, but the sporadic case at the institution gave a positive reaction. There is a history of meningitis at 1 year in the deaf-mute case. The first two children were healthy, the third is the deaf-born child, the fourth child is the case of recent deafness, the fifth pregnancy was a stillborn child, whilst the sixth and seventh members of the family are respectively 2 years and 8 months old.

Case 157.—This case is brother to Case 131, and his sister was admitted to the infirmary for the tonsils and adenoids operation. The girl's blood gave a negative reaction, but the mother's blood was positive, and the deaf-born boy at the institution gave a positive reaction. A child, who died from meningitis at 1 year, and two stillborn children complete the family.

For the sake of clearness, and to give uniformity to the cases, I give these two families in tree form :—

Tree 22.

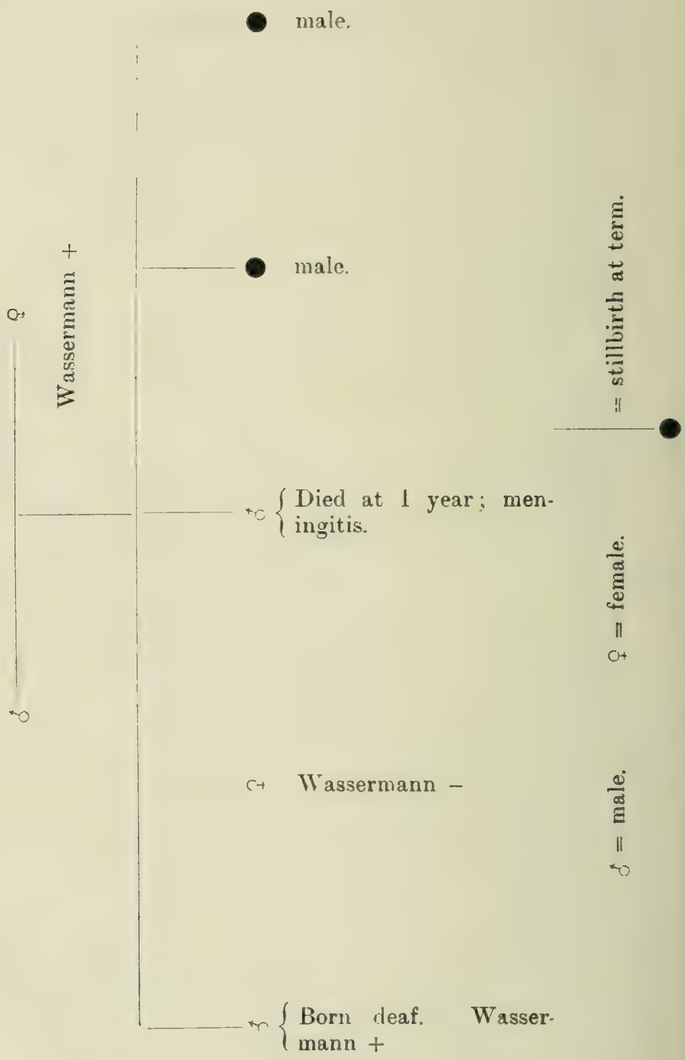
A—N Family.


♀
Wassermann –
♂
♂ æt. 8 months.
♀ æt. 2 years.
●
♀ æt. 5 years; getting deaf. Wassermann –
♀ æt. 7 years; deaf-born, or deaf from meningitis at 1 year. Wassermann +
♂ æt. 9 years, well.
♂ æt. 10 years, well.

♂ = male. ♀ = female. ● = stillbirth at term.

Tree 23.

R—E Family.



These examinations of the blood of deaf children establish—so far as I know, for the first time—the fact that congenital deafness is sometimes due to the poison of syphilis. When no active process is going on, apart from the deafness, the Wassermann test sometimes gives a negative reaction. By the time a congenitally deaf child has reached the school age the poison which has caused the deafness has often burnt itself out, and a positive reaction cannot be got. The examinations also suggest the probability that some congenital cases are syphilitic, although the blood reaction is now negative. Taken along with the acquired cases of the family trees given in the earlier part of this lecture, these examinations show congenital syphilis as a single cause producing deafness from adult life through adolescence and childhood into babyhood and intra-uterine life.

Remarks by Drs. Browning and Cruickshank.—In a certain number of cases of sporadic congenital deafness a strong positive Wassermann reaction has been obtained (fifth family), or a weak positive result in the patient has been associated with a marked positive reaction either in a parent (ninth family) or in a brother or sister (twentieth family); these results furnish an undoubted proof of the presence of syphilis in the affected families. The fact that in one instance (nineteenth family) the existence of syphilitic infection has been detected by the Wassermann reaction being positive in only one child out of a family of seven, four of the five children of which are congenitally deaf, but present no other signs of disease, shows that we are dealing in these cases with syphilis in a relatively inert form—an expiring syphilis apparently.

When considering the etiology of sporadic congenital deafness in the light of the Wassermann reaction, it is necessary to bear in mind exactly what information this test affords. A positive reaction is the rule when there are signs of active disease due to a wide dissemination of the causative agents throughout the body; on the other hand, when the disease has become latent, or where the activity of the parasites is limited to a small area, the reaction is negative in fully 50 per cent of cases. Thus, a negative reaction cannot be taken as a complete proof that syphilis is absent; it may equally well occur when a once active infection has become dormant. Now, in cases of sporadic congenital deafness, the damage has been done before birth, and the fact that further signs of disease have not manifested themselves at any time in other organs shows that there has been no marked widespread activity of the causal agent. Since, then, the active disease process has come to an end before birth, and the patients, otherwise apparently healthy, have not been examined till many years later, it is not surprising that the proportion of positive reactions is comparatively small. In a number of sporadic congenitally deaf patients also doubtful reactions have been obtained. Such reactions taken by themselves would probably have no positive import; but, supposing they had occurred in patients who had been treated with the specific remedies for a known syphilitic infection, they would have been taken as a sign that the infection was still present, although in an attenuated form. Similarly, the not infrequent occurrence in deaf cases of these suspicious reactions, which in tables cannot justifiably be classed except as negative, when taken along with the definite positive results mentioned above, is highly suggestive. Thus, the results as a whole indicate that syphilis is the causal factor in a considerable number of cases of sporadic congenital deafness, and justify the conclusion that the part which syphilis plays in the production of this condition may be much greater than can be detected by such a method as the Wassermann test, carried out at a date long after the disease has ceased to be active.

There is one class of cases which may be considered here—cases of congenital deafness which occur in association with some other defect, *e.g.*, blindness, epilepsy, insanity, feeble-mindedness, &c. In a remarkable paper published just a year ago by the American Eugenics Record Office, and entitled "Bulletin No. 4: A First Study of Inheritance in Epilepsy," the authors, Mr. Davenport and Dr. Weeks,[1] show the association of epilepsy with feeble-mindedness, with insanity, and with other neuroses. The paper proposes to explain the perpetuation of epilepsy and feeble-mindedness on the Mendelian hypothesis. Hereditary deafness is not mentioned in the paper. Now, I am not interested in this lecture in Mendelism at all. As an explanation of the heredity of deafness, I shall deal with it in the next lecture. Here I am interested in congenital deafness as it occurs in families in association with other congenital defects. The following are examples:—

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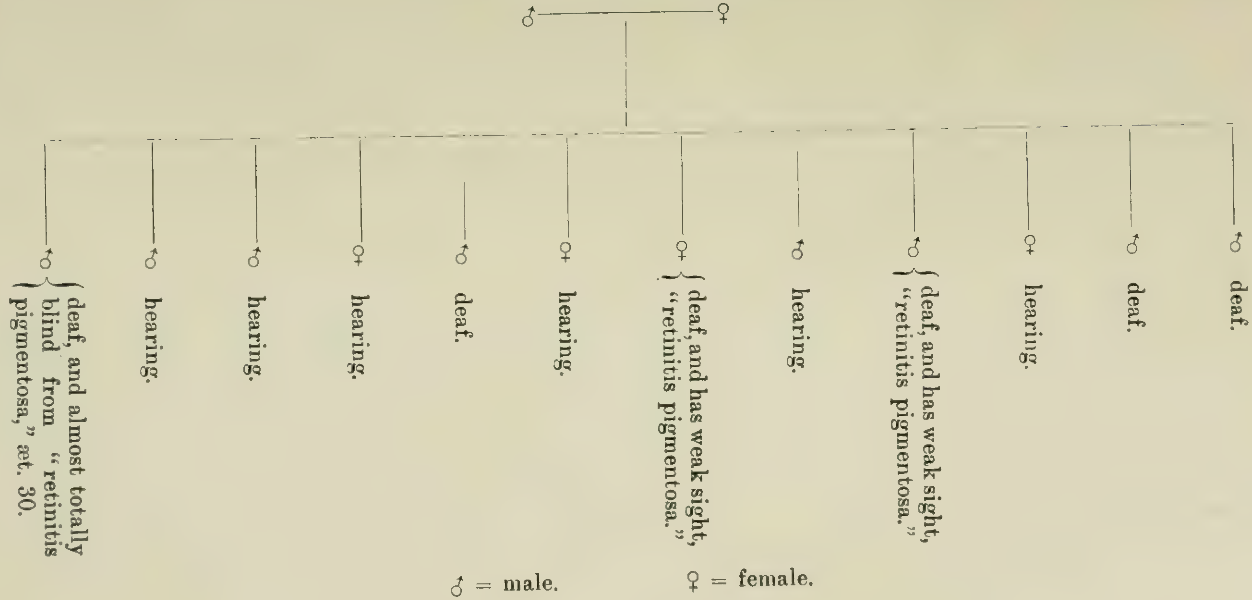
[1] Davenport and Weeks, reprinted from the *Journal of Nervous and Mental Diseases*, vol. xxxviii, 1911.

Tree 24.

N— FAMILY.

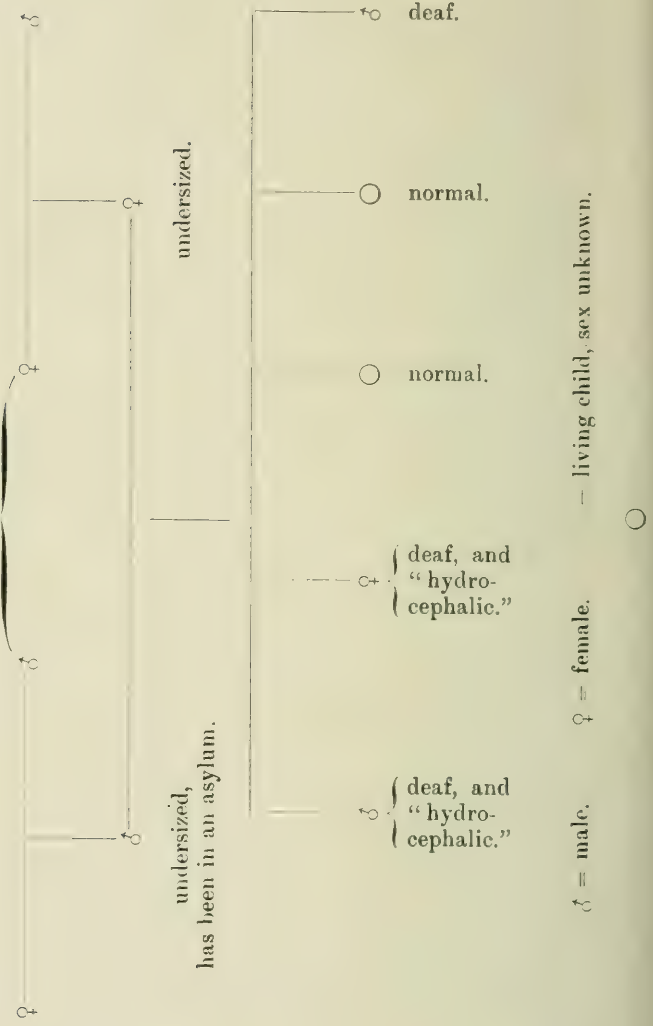
There is no history of deafness in the family, except that an aunt is said to have become quite deaf from scarlet fever. The parents are not blood relations. The mother says that she suffers from hysteria.

6 deaf and 6 hearing children.


♂
♀
♂ deaf, and almost totally blind from "retinitis pigmentosa," æt. 30.
♂ hearing.
♂ hearing.
♀ hearing.
♂ deaf.
♀ hearing.
♀ deaf, and has weak sight, "retinitis pigmentosa."
♂ hearing.
♂ deaf, and has weak sight, "retinitis pigmentosa."
♀ hearing.
♂ deaf.
♂ deaf.
♂ = male.
♀ = female.

Tree 25.

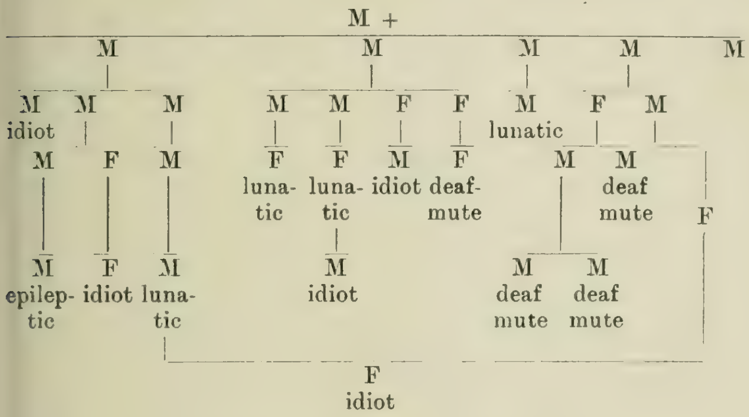
W— FAMILY.


♀
♂
♀
♂
brother and sister.
♂ undersized, has been in an asylum.
♀ undersized.
♂ deaf, and "hydro-cephalic."
♀ deaf, and "hydro-cephalic."
○ normal.
○ normal.
♂ deaf.
♂ = male.
♀ = female.
○ — living child, sex unknown.

Here is another case which I have quoted more than once:—

"At an inquest, yesterday, on Wm. Earnshaw, age 59, a St. Pancras sadler, it was stated that the relations could not identify the body, as the wife and sister were both deaf and blind, and the four children were deaf and dumb. The deceased was deaf and dumb, and was so when he married."

It would be easy to give a whole lecture on this subject. I take the following tree from Mygind's book[1]; the tree is quoted from Dahl's *Norwegian Genealogical Tables*:—



+ M = Male. F = Female.

"It will be seen," says Mygind, "that this family included 34 individuals, of whom 4 were deaf-mutes, 4 insane, 5 idiots, and 1 epileptic.

Such are the commonest defects which appear along with deafness in families, and here an interesting speculation suggests itself.

Those of you who have studied the development of the ovum know that the single cell—from which, after impregnation, all the structures of the body originate—divides or multiplies rapidly, and soon has these resulting cells arranged in three layers. The "blastoderm" divides into the epiblast, the mesoblast, and the hypoblast. The epiblast gives rise to the epidermis and its appendages, the great nervous centres, the principal parts of the eye, ear, and nose. The hypoblast gives rise to the epithelial lining of the whole alimentary canal (excepting that of the mouth) and of the lungs, and the lining of the ducts of the glands connected with the alimentary canal. The mesoblast gives rise to all parts of the skeleton, the muscles, faciæ, and tendons, the true skin, the vascular system and blood, the muscular and fibrous coats of the alimentary canal and all other visceral passages, the serous membranes, and the genito-urinary system.

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[1] Mygind, *Deaf-Mutism* (London: Rebman), 1894.

Now, all the higher degrees of deafness (those degrees of deafness which prevent the development of speech) are due to an affection of one part of the ear, the nervous apparatus. This nervous part of the ear is developed from the epiblast.

When we consider the other conditions which alternate in families with congenital deafness, or which exist along with deafness in individuals, we find that these, too, are affections of the organs which originate in the epiblast. Deafness and blindness, deafness and epilepsy, deafness and feeble-mindedness, deafness and albinism, are all pairs, which, when viewed developmentally, suggest a common origin. And even after having made allowance for nurture and post-natal environment, it is not difficult to see a possible developmental association between deafness and insanity, and between deafness and alcoholism. Now, putting aside for the present alcoholism and insanity (I shall deal with alcoholism presently) as conditions which do not appear till adolescence or adult life, and which require special nurtural or post-natal conditions for their development, notice that the other pairs on the list (deafness and blindness, deafness and epilepsy, deafness and feeble-mindedness, deafness and albinism) always exist at birth, or are developed before the post-natal environment has had time to operate in their production. They are congenital.

Compare this with other defects which appear in the ear! The middle ear is scarcely ever defective in the deaf-born. The membrane is intact: the ossicles are there. I have seldom seen a deformed or supernumerary auricle in a deaf-born child. Deformities like cleft palate or hare-lip are very uncommon in deaf-born children; yet these are all congenital malformations. Even when a child has a malformed auricle or a deformed middle ear, the internal ear is generally sound. But these latter defects do not arise in the epiblast; they arise in the mesoblast. We are therefore driven to the conclusion that when deafness is congenital, and is associated in the same individual with other defects, the defects belong to organs which arise in a single layer of the blastoderm, and that these defects arise in the earliest days of the existence of the fertilised ovum.

Defects arising in association with deafness, but belonging to another layer of the fertilised ovum, sometimes occur. An example, taken from the Glasgow Institution, is here given.

This girl, who is not mentally defective, was born deaf. She shows brachydactyly, a similar deformity of the foot, and deformity of the face and head. Her blood gives a negative Wassermann reaction.

The connection of syphilis with some of these congenital defects may here be noticed.

Dr. Chislett,[1] of the Woodilee Asylum, Lenzie, has tested 22 young people by the Wassermann reaction. They are described as follows:—

Idiots and imbeciles, .	14 cases (1 is a deaf-mute)— 8 positive, 6 negative; the deaf-mute is positive.
Juvenile general paralysis,	2 cases (both positive).
Epileptic idiots, . .	3 ,, (1 positive).
Paralytic idiots, . .	3 ,, (all negative).

In connection with the similar work described in this lecture on deaf-mutism, this author's remarks are worth quoting.

The interesting fact emerges that children who suffer from mental diseases of congenital origin, but show no other sign of syphilis, may show a positive reaction; and children whose parents are syphilitic may have a positive reaction, although at the time of examination they may appear to be in ordinary health, and show no signs of previous disease.

The significance of the results which have been detailed is that syphilis plays a larger part in congenital mental affection than is generally supposed. It is important, both for the classification of mental diseases and for the elucidation of the etiological bases of such maladies, that the serum reaction should be determined over a large series of cases. It would appear that the terms "racial degeneration" or "stigmata of degeneration," when applied to cases of congenital mental disease, may convey a false impression, especially when such cases are of syphilitic origin, and are due to specific infection of the individual. Congenital syphilis outside the nervous system produces degeneration only in the sense that an infection leads to destruction of structural elements. In the same way, it is not too much to say that nervous disease associated with congenital syphilis is the expression of anatomical changes that are due to an intra-uterine infection with the *spirochæta pallida*. The changes which such degeneration produces in a primarily plastic brain are likely to be permanent and hopeless from the point of view of individual therapy. If medical science is prepared to urge prophylactic measures for the prevention of such diseases, it is well that it should be definitely established and recognised that a considerable proportion of cases of congenital mental deficiency is infectious in origin, and that the infection is syphilis.

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[1] Chislett, *Journal of Mental Science*, 1911.

Dr. Carl Browning sends me some figures supplied by Dr. Gilmour, which the latter gentlemen has been good enough to put at my disposal for the purposes of this lecture. Of 120 consecutive cases (excluding general paralysis) admitted to Gartloch Asylum—

72 females.	13 reacted positively	= 18 per cent.
48 males.	13 ,, ,,	= 27 ,,
120 total.	Positive Wassermann results	= 22·6 ,,

The American eugenists attempt to deal with these defects —they do not refer to deafness, however—on the Mendelian hypothesis. These authors do not refer to syphilis as a cause of mental defect or of epilepsy. They refer, however, to the possible effect of alcohol.

"We see [in the tables presented] a constant excess, beyond expectation, of epileptic and feeble-minded offspring from alcoholic parents. In so far, our results support the view that alcoholism to a certain extent is a cause of defect, that 10 or 20 per cent more children in any fraternity are defective than would be were it not for alcohol. However, a word of caution must be added. It is not improbable that some of the alcoholics are actually feeble-minded, and any such would tend to increase the average of defective offspring because of their inherent defective germ cells, and quite apart from any poisoning effect on the germ cells of alcohol. The hypothesis that alcohol is a race poison deserves more critical, especially experimental, study on the lower animals."

If alcohol can be shown to increase the tendency to feeble-mindedness in an already predisposed offspring, it is almost certain that syphilis does the same. Remember the American figures have nothing to do with deafness, and I am only applying them to deafness which occurs in association with feeble-mindedness and epilepsy, Indeed, it is because of this association that I have included these as cases of sporadic congenital deafness.

The poison of syphilis may not be discoverable by the Wassermann reaction, it may not cause the death of children before birth or shortly after birth, it may not express itself in blindness and deafness in the school child of 10 or 12 years of age, and yet it may, given a tendency to deafness, increase the number of deaf progeny in a family. It may be argued that both syphilis and alcohol poison the blood of the better classes. The better classes are not more chaste than the poor, and they are in some senses as intemperate. With regard to syphilis, I have shown that it is the lack of treatment of the disease which is responsible for the high death- and deafness-rate of the children. With regard to alcohol, it is the excess, and the conditions provoking the excess, which account for the results in the children. Men do not drink for the love of drinking. Men drink, and so do women, because for the time they thus forget their wretched environment.

> "Kings may be blest, but Tam was glorious,
> O'er a' the ills o' life victorious."

Thus Burns pictures the power of alcohol, and Burns was right.

It is the power of alcohol to give a temporary victory over misery, and to set up a temporary heaven, that gives us the key to the drinking habits of the poor. And from the figures I have given you about the housing of the families from which the deaf children of our cities come, you will see that these offer an apology for the abuse of alcohol by the poor. In sporadic congenital deafness, therefore, there are some cases which, when the family is taken as a unit, exhibit a symptom-complex—feeble-mindedness, epilepsy, deafness; attending these families there is a cause-complex—poverty, overcrowding, alcoholism, and untreated syphilis. Case 38 may have arisen in this way.

I have no new temperance legislation to propose to you.

With regard to the housing question, it would be easy to deduce arguments from the figures I have submitted for the better housing of the poor. Until we solve the housing question most of our temperance legislation will be futile, and the stream of infantile deafness will go on unabated from the lowest ranks of society, the chief source of it in the past. In particular, I would say that the system of raising one and two apartment houses to a height of four and five flats (a system so common in Scotland) renders slum life inevitable. Children cannot be reared either physically or mentally pure under these conditions. But I cannot close this lecture without an urgent appeal to this Bureau to do all in its power to procure the notification of congenital syphilis. The frightful death-rate which I have shown to occur amongst the little children of syphilitic families: the blindness and deafness which ruin the lives of many of those children who survive to the school age—these are reasons for making the notification of congenital syphilis a question of great urgency. And a new fact has been added by this lecture. Congenital syphilis is a cause of deaf-born children, and a cause probably to a greater extent than any test we at present have can demonstrate. This, if a further proof were needed, is an additional reason for the notification of congenital syphilis.

It is difficult to think of a subject like this without letting one's mind take the cast of the speculative thought of the day, and my mind turns for illustration in the direction of Bergsonism.

If life in this world is due to a great initial impulse, and if in one groove this impulse has expressed itself as man, then within that groove nothing but man can come into being. The current that flows in this groove is always human. If the material of this current be cells, and if the current divide itself into national and family branches, we may suppose that national and family features have arisen from a fortuitous distribution of groups of cells which agree in their main features, but differ in detail. In some families the cells are deficient in those determiners or factors which go to the complete make up of a perfect nervous system, and the children born into such families are feeble-minded or epileptic, or are born deaf. These defects may be accentuated by such poisons as alcohol and syphilis. Within the family stream the defect is permanent, and is developed to its utmost by the intermingling of similar cells or by the marriage of those who are related by blood. The defect may become less frequent by streams or families uniting, one of which is perfect or in whom the defect does not exist. But the defect cannot be stamped out so long as the family goes on at all, and the practical question is whether the defect is so serious for the individual and for the community that the latter should take steps to protect itself. The answer to this question I propose to give in my next lecture.

Obituary.

THOMAS THOMSON BATHGATE, M.B., CH.B.GLASG., CAMBUSLANG.

WE regret to announce the death of Dr. Bathgate, which took place on 13th ult. at his residence in Cambuslang. Deceased studied medicine at the University of Glasgow, and graduated in 1900.

HUGH WILLIAM CRAWFORD, M.B., CH.B.GLASG., HOWDEN, E. YORKS.

WE regret also to have to record the death on 17th ult. of Dr. Crawford, of Howden, East Yorkshire. Dr. Crawford studied medicine in the University of Glasgow, where he graduated in 1902. After gaining some experience in assistantships, he some years ago settled in practice in Howden, where he was at the time of his death. In addition to private practice he held various appointments, and among others, those of Medical Officer and Public Vaccinator to the Howden District and Union Workhouse; Medical Officer to the Post Office and Board of Education; and Surgeon to the Ouse Chemical Works.

CURRENT TOPICS.

GLASGOW AND WEST OF SCOTLAND MEDICAL ASSOCIATION ("GLASGOW MEDICAL JOURNAL"): ANNUAL MEETING.—The annual meeting of the Association was held in the Faculty Hall on 29th January. Mr. Arch. Young occupied the chair. The Treasurer's and Editors' reports were submitted by Dr. Inglis Pollock and Dr. Monro respectively, and were adopted. The following office-bearers were elected for 1913:—

President,	MR. ARCHIBALD YOUNG.
Vice-Presidents,	DR. LEONARD FINDLAY. DR. GEO. A. ALLAN.
Editors,	DR. THOMAS KIRKPATRICK MONRO. MR. GEORGE HENRY EDINGTON.
Secretary,	DR. JOHN ANDERSON, Lincluden, Cathcart.
Treasurer,	DR. W. B. INGLIS POLLOCK, 276 Bath Street.
Auditors,	DR. W. A. CAMPBELL. DR. J. H. MARTIN.

General Business Committee.

DR. JOHN SHAW DUNN.
DR. JAMES SCOTT.
DR. WM. SNODGRASS.
DR. ALEX. MACLENNAN.
DR. DAVID SHANNON.
DR. GEORGE M'INTYRE.
DR. G. B. FLEMING.
DR. W. CAMPBELL MACKIE.

THE ROYAL FACULTY OF PHYSICIANS AND SURGEONS AND THE HOUSING QUESTION.—The Town Council of Glasgow, at its meeting on 6th February, received a deputation from the Royal Faculty of Physicians and Surgeons on the subject of the housing problem and the treatment of consumptives on their return from sanatoriums. Dr. Adams, the President, said that the Faculty had existed for over three hundred years, and one of its charter rights was that of watching the interest of the poor. It had been very much concerned lately regarding the question of tuberculosis, the question of better housing, and the question of clearing out slum properties. The deputation came in no carping spirit, but to try to support the Corporation in the effort it was making to deal with a very difficult subject, and, if possible, to get those properties swept away at any cost, for he was sure, whatever the cost, it would repay them a hundredfold. Professor Glaister then said he had been charged to lay before the Town Council two resolutions passed by the Faculty:—

"1. That the Faculty have learned with satisfaction of the action already taken by the Corporation of Glasgow in closing houses and tenements in the slums of Glasgow, which are the breeding places of consumption; and, while appreciating the difficulties in achieving rapidly the end in view, would urge the Corporation to prosecute the same with vigour, in the best interests of the citizens of Glasgow; and also to provide for the housing of the displaced families."

They all knew that owing to the absence or deficiency of building regulations in the past the housing conditions of Glasgow gradually evolved themselves through different centuries, with the result that they had conditions existing in the city which were not consonant with the public health requirements of to-day. These conditions had been bequeathed to them, and they must be gradually removed before they brought the city up to the conditions they all desired.

"2. The Faculty are also of opinion that the Corporation of Glasgow should provide suitable hospital accommodation for the more advanced and incurable cases of consumption, these probably being the most active sources of infection."

They knew from their medical experience that tuberculosis was spread among members of families by the imperfect housing conditions in which they lived. They therefore thought that when cases were so far advanced as to be incurable, a home should be provided by the Corporation for the sufferers, with such provisions for the visitation of friends as the Corporation might arrange.

Dr. E. Duncan submitted a third recommendation, which was as follows:—

"3. That in view of the rapidly accumulating experience regarding the disheartening results which follow the return of sanatorium patients to their own surroundings when these are unsuitable, the Faculty would suggest that the Corporation should provide houses structurally adapted for the home treatment of consumption."

Those who had experience of sanatoriums knew that a large number of patients were sent out who seemed to have the disease arrested—they did not speak nowadays about cured—and if they were able to carry on for some time the treatment they had received from the sanatorium, a very considerable number of them would no doubt become well.

Dr. Knox then thanked the Council for receiving the deputation, and the Council decided to discuss the resolutions at the next meeting of the Corporation.

HONOUR FOR SIR WILLIAM MACEWEN.—At a meeting of the Royal Faculty of Physicians and Surgeons, held on 3rd February, Sir William Macewen was, on the motion of the President and Council, unanimously elected a Honorary Fellow of Faculty.

THE BISHOP'S PALACE: MEMORIAL OBELISK UNVEILED.—An artistic obelisk, the gift of Mr. Francis Henderson, which has been erected in Cathedral Square to mark the site of the Bishop's Palace, was unveiled on the afternoon of 10th ult. by the very Rev. Dr. M'Adam Muir. The obelisk, which occupies a situation immediately opposite Provand's Lordship, stands 7 feet high, and is of silver-grey granite, decorated with old Scottish carving. There is a bronze panel bearing an engraving of the old Palace, with an appropriate inscription. On the reverse side the City Arms are carved in the granite. The monument has been made to the design of Mr. James Millar, A.R.S.A., and the sculptor was Mr. Robert Gray.

Mr. Francis Henderson, in the course of his remarks, said that after occupying the distinguished position of Dean of Guild it seemed to him a great pity to demit from the office without leaving some tangible memorial behind. It occurred to him that there was one thing in Glasgow which had disappeared, and which they were in danger of forgetting altogether, and that was the old Bishop's Palace. The Statute Labour Committee willingly acceded to his wishes in the matter. The first record they had of any castle on the site was in the reign of King David in the twelfth century, and so far as was known that was the first fortified position in Glasgow. They presumed it was a timber castle with stockades round about it. About a century later Bishop Wishart, "the warrior bishop," erected a stone castle on the site, and during the succeeding centuries that was further enlarged and strengthened. The castle was not only a fortified post; it was the abode of the bishops and archbishops of Glasgow, and it was the centre for all the civic life of the community for hundreds of years. It was visited and inhabited by kings and princes and queens. Mary Queen of Scots and her mother were both there, and also James I, James II, James IV, and James V. The great Bishop Elphinstone, of Aberdeen, also visited the place. It was inhabited by poets, statesmen, men of letters, warriors, and chieftains, and illustrious people, and it was the centre and spring of the civic life of the city for many hundreds of years. Originally the bishops had the whole of the jurisdiction of the city in their own hands. For purposes of convenience they nominated a bailie to act for them in civic affairs. It was many hundreds of years afterwards that the citizens had the right of electing their own Magistrates, and it was not till 1450 that they heard of any Lord Provost. Up to 1570 all the meetings of the Town Council were held in the castle which stood on that site. To think of all that had happened in the building which stood on that site, and to think that not one stone remained was, he thought, expressive of the ingratitude of succeeding generations for all that was done for them in the past. The last record of the building was in 1792, when the Royal Infirmary was erected and the last stones of the building finally removed. In 1853 a mound which stood in front of the Royal Infirmary was removed, and in the course of the removal traces of the old moat and part of the old drawbridge were found, showing that at one time it was a strongly fortified post. Mr. Henderson then presented the obelisk to the Corporation.

The Very Rev. Dr. M'Adam Muir, after unveiling the obelisk, said it was only fitting that some memorial of the old palace should remain in the city. It had not been wholly forgotten by the people, because twenty-five years ago the great Exhibition was in a sense intended to recall what it once had been. It had been not only a fortress and palace, but at one time it was a prison—for a short time for political offenders and afterwards for ordinary criminals. Mr. Henderson had mentioned that the palace was finally removed at the time when the Royal Infirmary was first built. It was rather singular that the monument should be set up at the time when the new and enlarged Royal Infirmary had been erected. What remained of the stones of the Bishop's Palace in 1792 were partly used in the Royal Infirmary and some of the houses in the neighbourhood, and, he understood, very notably in building the Saracen's Head Inn in the Gallowgate. It was with joy and gratitude that they hailed the gift from Mr. Henderson to retain a memorial of a great building of days gone by.

The Lord Provost having accepted the memorial on behalf of the Corporation, the company thereafter adjourned to Provand's Lordship where tea was served.

Duty Payable on Hospital Legacies.—In our last issue (p. 121) we published a letter addressed by the British Hospitals' Association to the Chancellor of the Exchequer, asking that hospitals should be relieved from payment of legacy duty (10 per cent) upon bequests made to them. From the Chancellor's reply, which we publish below, we learn that he does not see his way to introduce legislation with the above object.

"TREASURY CHAMBERS, WHITEHALL, S.W.

"DEAR SIR,—The Chancellor of the Exchequer has now given his most careful consideration to your letter of the 15th ultimo, enclosing a memorial on behalf of the British Hospitals' Association, asking that hospitals should be relieved from payment of legacy duty in respect of legacies bequeathed to them. Having regard, however, to the very considerable loss of revenue to the Exchequer which the proposal involves, and to the very serious demands of a like nature which would inevitably follow any such concession, Mr. Lloyd George regrets that he cannot see his way to submit to Parliament legislation with the object of exempting hospitals from the payment of this duty. I am, moreover, to point out that it is always open to a testator to bequeath a legacy to a hospital "free of duty," and in this way to shift the incidence of duty from the hospital to the residuary legatee.—Yours faithfully,

(Signed) "H. P. HAMILTON.

"CONRAD W. THIES, Esq."

ROYAL INFIRMARY AND INSURED PERSONS.—From the reports in the daily press of the annual meeting of qualified contributors to the Royal Infirmary, it is quite evident that the falling off in the subscriptions is proving a source of anxiety to the managers. Mr. Hedderwick, the chairman of the board, in seconding the adoption of the annual report, frankly stated that he looked upon the diminution in subscriptions as the first fruits of the National Health Insurance Act. He, in conjunction with other speakers, appealed to the public to reflect that it was an absolute necessity to maintain the voluntary hospitals in unimpaired resources as something infinitely better than any possible substitute.

With the view of removing misapprehension on the part of the workers regarding the position of infirmaries since the passing of the Insurance Act, the Lord Provost agreed to issue for publication the following statement:—

1. The hospital will give insured persons everything it has given in the past which the Act does not give.

2. Regarding in-patients, subject to the rules and statutes, all insured persons will be admitted as in-patients as heretofore.

3. Regarding out-patients, all insured persons requiring special treatment will be treated as heretofore.

4. All insured persons suffering from serious accidents will be treated as heretofore.

5. All insured persons attending the out-patient or casualty department will be examined and treated, if necessary, for the first time. Such as, in the opinion of a member of the medical staff, are suitable cases for home treatment will be referred to their panel doctor for further attention; but hospital treatment will be continued for such cases as, in the opinion of the member of the medical staff, cannot receive proper treatment at home, or which require to be under further observation.

Western Infirmary Residents' Club Dinner.—In the Central Station Hotel on Friday, 14th February, the Western Infirmary Residents' Club held their annual dinner. Dr. James Parker (Kilmacolm) was in the chair, and there was a large attendance of members, including Dr. Geo. Middleton, Dr. Macpherson (Cambuslang), Dr. Marshall (Rothesay), Dr. Sewell (Helensburgh).

The guests invited by the Club were Professor Sir William Macewen (who unfortunately could not be present), and Professor Murdoch Cameron. The toast of "The Guests" was proposed by Dr. Ivy Mackenzie, and Professor Cameron replied. The toast of "The Old Institution" was given by Dr. A. Wilson, and Dr. Smith (one of the present residents) replied. Dr. John Patrick, in proposing the toast of "Absent Friends," drew attention to the Menu Card designed by Dr. A. Macphail (London), and proposed that the Secretary should be instructed to write and thank him. Dr. Jas. H. Martin proposed the toast of "The Chairman."

Amongst those who contributed to the evening's enjoyment were Drs. T. Laird, C. Macartney, MacLellan, A. Patrick, D. Yellowlees, J. S. Buchanan, W. A. Sewell, and Macpherson.

At the business meeting held before going in to dinner, Dr. A. Wilson was appointed Chairman for next year's meeting. It was decided not to alter the date of the annual dinner. The Treasurer (Dr. Wm. MacLennan) reported that financially the Club was in a flourishing condition.

North of England Glasgow University Club Dinner.—The annual dinner of the North of England Glasgow University Club was held in Newcastle on the evening of 7th February, Dr. Hugh Dickie presiding. The guests included Professor Bower, Glasgow; Professor R. W. Reid, Aberdeen; and Dr. G. S. Middleton, Glasgow Royal Infirmary. The toast of "The Alma Mater" was proposed by the Chairman, who referred to the progressive tendency in the University in catering for commercial and professional careers. He thought there was some truth in the suggestion that there was too much systemisation, and this was probably due to the interference of the Treasury, who would not include a grant unless the inclusive fee system was in vogue. Purely educational questions should, he thought, be left in the hands of the University Court.

Professor Bower, in responding, said that perhaps the Treasury interfered further than they altogether liked, but they had to remember that they went to the Treasury and asked for further moneys for administering the machinery, and that request was met with conditions. The inclusive fee was, he thought, an unmixed blessing.

Professor Reid also responded to the toast, and expressed himself in favour of the inclusive fee system.

Dr. Middleton proposed the toast of "The Club," and Dr. J. J. Weir replied.

Other toasts followed.

MATERNITY AND WOMEN'S HOSPITAL: ANNUAL REPORT.—At the annual meeting of the general court of contributors and subscribers to the Glasgow Maternity and Women's Hospital, held in the Hospital, Rottenrow, on 17th February, the seventy-eighth annual report of the directors was presented. The report stated that while they recognised that the financial position of the hospital was still far from what it should be, they recorded with gratification that the end of 1912 had found the hospital in a much better position than it was in at the beginning of the year. Donations to the building fund received in 1912 amounted to £9,744, 18s. 6d. The revenue showed an increase of £299, 18s. 9d. The general expenses were lower than those in the previous year, and the deficit had been reduced from £3,513, 13s. 1d. to £3,084, 1s. 6d. A very pleasing fact was that the subscriptions from employees had increased by £127, 5s. 5d. The directors felt that the working men were recognising the hospital as an agency for the benefit of the community. The medical reports stated that the number of cases in the obstetrical department showed a small increase over the number for 1911. In the year 1908, when the new hospital was opened, the cases numbered 3,543. In 1912 the number had risen to 4,489. The gynæcological department had to be closed on 20th March for the want of money to carry it on, but the directors hoped that when they presented their next report they would be able to hold out the prospect of an early re-opening. As a teaching school the hospital continued its good work. Clinical instruction being now compulsory for graduation, the students were attending the wards in larger numbers than formerly. The provisions of the National Insurance Act, so far as these might affect the hospital, had been from time to time the subject of consideration by the directors, and a deputation from the directorate laid before the Insurance Commissioners for Scotland the directors' views upon several points in connection with the administration of the maternity benefit. That benefit was in the hands of the approved societies, and while the great charitable work of the hospital would be carried on, the directors made an earnest appeal to all administering the benefit to recognise generously the work done by the hospital.

Sir Hector Cameron moved a resolution strongly commending the hospital to the generosity of the citizens of Glasgow and neighbourhood for the financial support necessary to enable it to carry on its ever-increasing work both as a charity and as a training school. The hospital, he said, performed a double function in respect that it was a charity and also an educational and training school. There were important respects in which the hospital differed from other medical charities in the city. In the first place it was the only one of its kind. It stood alone in the work which it did, and, further, the patients who were admitted to it did not come because they were in distress or danger from any disease or injury; they were brought there because they were in anticipation of what one might call the most frequent or one of the most frequent of domestic occurrences, one of the ordinary physiological health processes of nature. But at the same time they all knew as a matter of human experience that it often was surrounded with a curious mingling of certainty and uncertainty. Many of them had had cause to reflect, some of them with bitter tears, on the pathos and the mystery and, if he might say so without irreverence, the apparent injustice of the death of a woman in childbed. He himself could remember that a death in childbed was an extremely common occurrence in a community such as Glasgow, and in such an hospital as that in which they were now assembled the mortality was often appalling. Six, eight, ten, and twenty women would be successively delivered and successively carried out beyond the walls of the hospital to their graves. There was a widespread popular belief that the women of the poorer classes did not suffer so much inconvenience, and somehow or other escaped the disasters and mishaps to a greater extent than their sisters who were more gently born and who lived in easier circumstances. After pointing out that Lord Byron had given some currency and some vogue to this view in a passage towards the end of *Childe Harold*, Sir Hector Cameron stated that he regarded that belief as an absolute popular fallacy. In vital statistics it was shown to be absolutely worthless, and he said this in order to emphasise this other statement, that no woman, at all events no large percentage of women, be they princesses or peasants, could bring forth in safety unless they were surrounded by a regimen, a technique, and a ministration both by doctors and nurses which obeyed throughout the well-known laws of what he might call surgical and scientific purity. After comparing the work, about the middle of last century, of the Hungarian, Semmelweiss, in the realm of obstetrics with that of Lord Lister in surgical art, he said that these men wrested from nature the real secret of what caused the mortality. The late Sir William Sinclair, Professor of Midwifery in the University of Manchester, a great authority on all such subjects, wrote a few years ago a very interesting book on the life and doctrines of Semmelweiss, and he recited details at great length of the awful mortality which occurred in midwifery practice up to the middle of last century. In course of this book he said:—"Now the safest place in which a woman of the working classes can be confined is a well-appointed modern lying-in charity." That institution was a modern and well-appointed lying-in charity—well-appointed in the form of its architecture and arrangements, in its equipment, in the character and the standard of its nursing, and, last and not least, perhaps, well-appointed in the skill and experience of those who controlled its treatment. He could with every confidence recommend it to the increased interest and generosity of the public. In conclusion, he spoke of the indispensable character of the hospital as a training school, and said that in proportion as the public supported a place of that sort in efficiency and thoroughness, in that proportion would their own safety and that of those they loved be secured.

GLASGOW MATERNITY AND WOMEN'S HOSPITAL.—It is now close on five years since the Glasgow Maternity and Women's

Hospital was opened. It was designed to replace the Maternity Hospital standing immediately to the east of it in the Rottenrow. This structure, which had served the needs of the community from 1881 till 1908, and which at the time of its opening was quite up to date, had become too small for its purpose, and it was felt that a larger and better equipped building was urgently needed if the Glasgow school of obstetrics was to maintain the position which it had won. Not only was every advantage taken of the experience gained in the construction of the most modern maternity hospitals on the Continent, but provision was made for a gynæcological department, without which such a hospital cannot at the present day be considered complete. The gynæcological wards were opened last year, but, owing to the lack of funds, they have had to be temporarily closed.

The citizens of Glasgow have of late had the needs of the hospital brought more or less prominently before them, and now an appeal which it is hoped will be very far reaching is made in the shape of *The Chapbook of the Rottenrow*.[1]

The plan of the *Chapbook* is not new; it is that of many another volume issued on behalf of a charity, and made up by contributions from *littérateurs*, poets, and artists. But two special features of the *Chapbook* are, first, that it is designed to help the funds of an important local medical charity, and, secondly, that it numbers among its contributors well-known members of the local medical profession; while the editor, already not unknown in the literary world, is the wife of one of the senior members of the staff of the hospital.

Of the literary contents there are close on thirty contributions, prose and verse, and the book is generously illustrated. Professor Glaister contributes a historical account of the Rottenrow. From this the decline of the street, which formerly was "the abode of ecclesiastics and gentry," is made very evident to the medical reader, in whose memory remain green the stuffy, dingy, and not over-clean "digs" which he was forced to occupy while "taking out his cases." To such, however, revisiting the ancient scene of his early labours the new hospital buildings will come as a pleasant surprise, and will doubtless suggest a revival of the pristine splendour of the street—a veritable rising of the Phœnix from the ashes.

Following Professor Glaister comes Dr. John Fergus with

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[1] Edited by Mrs. Robert Jardine. For the funds of the Glasgow Maternity and Women's Hospital. Glasgow: William Hodge & Co. 1913.

"The Gipsy's Bairn." This delightful poem exhibits the author in all the pathos and tenderness of which he is a master, and it needs from us no word of commendation. Dr. Jardine sketches the history of the Maternity Hospital of Glasgow, and further down in the list of contents we come across the name of our old friend Dr. William Findlay, better known, perhaps, in the world of letters as "George Umber." Dr. Findlay contributes an article on the "Old College Coffee Stall." The scene, which is painted with his usual skill—the art is entirely concealed—is no mean tribute to his power with the pen, a power already displayed when he was in the "thraws" of active practice. Further on we come to Miss Carswell's "Chivalry," a description in verse of the little boy's nose being put very much out of joint by the advent of a baby sister. Miss Carswell has portrayed very cleverly the feeling of the primordial savage, which, after all, every small boy, worthy of the name of boy, is. In Dr. Syme's "Fight On," with which the volume closes, we have the "high ideal" set before us in all its essence.

The illustrations are pleasing, and are well reproduced.

We have mentioned only a few of the good things in which the *Chapbook* abounds. The publishers have done their part well, and the volume is so good that we are afraid that the purchaser of it can hardly lay claim to the merit of disinterested charity.

Mrs. Jardine and her willing band of collaborators deserve the gratitude of their readers as well as that of the hospital which they seek to benefit.

ROYAL HOSPITAL FOR SICK CHILDREN: ANNUAL REPORT.—The report of the directors of the Royal Hospital for Sick Children, Glasgow, for the year ended 31st December states that the number of cases treated in the wards during the year was 1,208, compared with 1,095 in the previous year. There were 530 medical and 678 surgical cases. The dispensary supplied 249 of the medical and 213 of the surgical cases. Of the total cases admitted 237 were infants under 1 year, and 206 were over 1 and under 2 years of age, as compared with 192 and 168 respectively last year and 166 and 163 respectively the previous year. The continued increase in the number of very young children treated is noteworthy. During the year there were 188 deaths. The percentage of deaths to the total discharged was 17·81; but, excluding 41 children who were so ill when admitted that they died within 24 hours thereafter, the percentage is reduced to 13·8, as compared with 12·17 the previous year. The average daily number under treatment in the hospital was 73·35, as compared with 71·19 last year, and the average duration of residence of patients discharged from the hospital was 22·84 days, as against 26·5 days for 1911. The average number actually on the books as awaiting admission at the close of each month throughout the year was 64. In addition, there were many others who required hospital treatment, but whose names were not taken as there was no possible chance of admission until after a very prolonged period of waiting. The ordinary expenditure of the hospital was £4,843, 11s. 10d., while last year it was £4,497.

At the country branch at Drumchapel many more than the regulation number of 26 cots could easily have been utilised. In all 134 patients were treated, being the same number as last year, the average daily number under treatment being 25·6, and the average residence in the branch of patients discharged being 110·37 days, as compared with 106·29 days the previous year. The ordinary expenditure of the country branch was £1,650, 2s. 3d., while last year it was £1,402, 15s. 1d.

The following figures show the work done at the dispensary:—Medical cases, 9,364; surgical cases, 3,381; total new cases, 12,745, compared with 14,557 in the previous year. Last year the subsequent attendances numbered 36,235, compared with 38,196. The total attendances last year were 48,970, against 52,753. Of the cases treated 3,016 were under 1 year and 4,075 were over 1 and under 3 years of age, as compared with 3,463 and 4,422 respectively last year. The maximum number of new cases in any one month was 1,260 in October. The average attendance for each day throughout the year, excluding Sundays and holidays, was 144, as compared with 173 last year. The largest attendance on any one day was 227. In addition to the work in the dispensary, the sisters and nurses paid 931 visits to 464 patients in their own homes. The ordinary expenditure of the dispensary was £1,563, 17s., compared with £1,899, 6s. 5d. last year, representing an outlay of 2s. 5·35d. per patient treated, including the cost of medicines supplied. Taking attendances at the dispensary and home visits together, the cost of each act of personal service rendered in the practice of the dispensary was 7·52d.

The accounts of the hon. treasurer show that the ordinary income amounted to £8,127, 10s. 8d., and the ordinary expenditure to £8,057, 11s. 1d., leaving a surplus of £69, 19s. 7d. Last year the ordinary income was £7,942, 9s. 1d.

and the ordinary expenditure £7,799, 1s. 6d., showing a surplus of £143, 7s. 7d.

The report of the Ladies' Auxiliary Association states that during the year the dispensary sisters paid 931 visits to 464 patients. From the hospital and country branch 54 cases, and from the dispensary 168 cases were sent to convalescent homes.

David Livingstone and Medicine.—It is most remarkable that on the tablet which covers David Livingstone's remains in Westminster Abbey no reference is made to the fact that he was a member of our profession. The actual words inscribed are:—Brought by faithful hands over land and sea, here rests David Livingstone, Missionary, Traveller, Philanthropist. Born March 19, 1813, at Blantyre, Lanarkshire. Died May 4, 1873, at Chitambo's Village, Ilala. For thirty years his life was spent in an unwearied effort to evangelize the Native Races, to explore the undiscovered secrets, and abolish the desolating slave trade of Central Africa, where, with his last words, he wrote:—"All I can say in my solitude is, May Heaven's Blessing come down on every one—American, English, or Turk—who will help to heal this open sore of the world." "Other sheep I have, which are not of this fold: them also I must bring, and they shall hear my voice." "Tantus amor-veri, nihil est quod noscere malim, quam fluvii causas per saecula tanta latentes." In all seriousness we would ask — Is this quite fair to Doctor Livingstone?

We are prepared to admit that the biggest things in Livingstone's life were exploration and religion, but we cannot conceive that medicine to him was nothing; no more do we believe that he was nothing to medicine. As a means for furthering his missionary propaganda, the practice of physic made to him a very strong appeal. Moreover, since his religion was pre-eminently practical and humanitarian, the knowledge of how to care for disease and alleviate suffering must have been to him, as he himself declared, exceedingly precious.

David Livingstone was neither mystic nor doctrinaire. In temperament he was essentially scientific; to know was a passion with him all his life, and, had we nothing to prove the contrary, we would still refuse to believe that he was either indifferent or blind to the facts of disease. But all who have read his *Journals* know that they abound in accurate and original observations on the infinite maladies of man and beast in South Africa, and that they supply information about native medicine to an extent which had never before been attempted, and which was only possible to a ceaselessly ardent enquirer. It behoves us to remember that all the great discoveries in tropical medicine are but of yesterday; absolutely dependent on the microscope, which was but a toy in Livingstone's time; and more or less a natural sequence to the demonstration of the microbe as a cause of disease. Consequently, it is not to be wondered at that Livingstone's name is unconnected with any outstanding medical revelation; nevertheless, we must frankly recognise that, had not his stupendous geographical discoveries dwarfed to insignificance all his other achievements, we would have been acclaiming him to-day as a tropical medicine pioneer.

In November, 1840, Livingstone became a Licentiate of the Faculty of Physicians and Surgeons of Glasgow. In the "Autobiography" prefixed to his *Travels and Researches in South Africa*, he himself supplies a most interesting glimpse of an examination that he evidently could not wholly forgive:—

"Having finished the medical curriculum, and presented a thesis on a subject which required the use of the stethoscope for its diagnosis, I unwittingly procured for myself an examination rather more severe and prolonged than usual among examining bodies. The reason was that between me and the examiners a slight difference of opinion existed as to whether this instrument could do what was asserted. The wiser plan would have been to have had no opinion of my own. However, I was admitted a Licentiate of Faculty of Physicians and Surgeons. It was with unfeigned delight I became a member of a profession which is pre-eminently devoted to practical benevolence, and which with unwearied energy pursues from age to age its endeavour to lessen human woe."

Who were those Tritons of the minnows? Fresh from "walking the hospitals" at Charing Cross, it is just possible that Livingstone, consciously airing London views, irritated beyond measure his Scottish inquisitors. It is recorded that, when on probation with the Rev. Robert Cecil, of Chipping Ongar, in Essex, Livingstone just missed the fate of the "stickit minister." It would appear from his own statement, however, that he narrowly escaped being a "stickit" doctor also. For, on the morning following his ordeal by the Faculty, Livingstone, as pre-arranged, embarked at Glasgow for Liverpool to join the good ship *George* bound for Algoa Bay; and it is probable—indeed certain—that had he failed to satisfy his examiners at this time he would never have troubled them again.

In 1857, when he also received the Freedom of the City of Glasgow and the degree of LL.D. from the University, Livingstone was made an Honorary Fellow of the Faculty of Physicians and Surgeons. The Faculty has always been exceedingly jealous of its trust, and never once has it squandered this distinction. Its exaction of real medical merit is inexorable, all of the select few so entitled having been truly great physicians or surgeons. We may take it, then, that the Faculty delighted to honour in Livingstone's case not the explorer, nor the missionary, nor yet the slave emancipator, but—the doctor.

Though it may be that "he needs no epitaph to guard a name," is it too much to ask that in all future inscriptions due prominence be given to the fact that David Livingstone was an Honorary Fellow of the Faculty of Physicians and Surgeons, Glasgow; and may we hope that some day the unnecessarily bald statement on the commonplace statue in our own George Square will be suitably amplified?

LIVINGSTONE CENTENARY FUND, BLANTYRE.—In our last issue (p. 121) we drew attention to the proposals of the Representative Committee of the David Livingstone Centenary. Since then, the Minister of Blantyre has issued an appeal on behalf of the Blantyre Cottage Hospital. This appeal we subjoin for the information of our readers:—

"THE MANSE,
"BLANTYRE, SCOTLAND, *3rd February, 1913.*

"SIR,—On 19th March, 1813, was born in a humble home in Blantyre, Lanarkshire, one of the world's greatest men—Dr. David Livingstone, Missionary, Doctor, and Explorer.

"Blantyre is justly proud of her hero, and is anxious to commemorate and perpetuate his name and life-work in her midst in the most useful and lasting manner.

"Since Livingstone's day Blantyre has become a large mining centre with a teeming population of workmen and their families. The increased population, and the numerous accidents and illnesses attendant on pit work, necessitated some years ago the erection in Blantyre of a cottage hospital for the treatment of accidents and other non-infectious complaints. The hospital is capable of accommodating ten patients—six adults and four children—and has male and female wards. It was erected and is supported entirely by voluntary contributions. Its income has, however, never equalled its expenditure, and its small reserve fund is gradually being depleted. Since its opening the hospital has been fully taxed to provide accommodation for all those requiring treatment, and an extension in its accommodation will probably be required at no distant date.

"It has been suggested that a more fitting way could not be found of celebrating the great Missionary Doctor's Centenary, and of immortalising his name in the place that gave him birth, than to raise a fund to improve, extend, and endow this hospital, and to call it for all time to come 'The Livingstone Memorial Hospital,' Blantyre. It stands in a prominent position in the centre of Blantyre, and would thereby become a monument to his memory and a continual testimony to his art of healing.

"The objects of the Glasgow Committee formed to commemorate Livingstone's Centenary are to promote Medical Missionary enterprise in Africa, and to found a Chair of Geography in Glasgow University. Both of these objects are excellent, but the place of his birth has, I submit, a prior claim, and the object proposed is equally good. I accordingly am sending this appeal far and wide, that all Britishers at home and abroad may have the privilege of contributing to the Memorial of the great Scotsman—Dr. David Livingstone, of Blantyre. Contributions will be gratefully received and acknowledged by George Campbell, Esq., Clydesdale Bank, Limited, Blantyre, the Honorary Treasurer.—I am, Yours faithfully,

"C. SCRIMGEOUR TURNBULL,
"*Minister of the Parish of Blantyre.*"

A POPULAR HISTORY AND DESCRIPTION OF SLEEPING SICKNESS.—It is well known that the results of scientific research are often capable of being presented to the lay public in language so free from technical terms, and yet so lucid, as well as accurate, as actually to fascinate the hearer of the lecture or the reader of the book. Of course it is not given to all scientists to impart scientific truth in this way, but the intellectual world owes much to the few who have the gift. For those who wish to know the history and the leading facts as to the nature of sleeping sickness, we can strongly recommend a pamphlet of 56 pages which has recently been prepared by Dr. F. M. Sandwith, and published by Messrs. Macmillan & Co. Few will venture to disagree with the remark made by the Colonial Secretary in the House of Commons, on 27th June last, that the most anxious problem of the present and the future in connection with tropical medicine is that of sleeping sickness. Yet, in spite of all that has been written on the subject in the present century, there has hitherto been no popular history of the disease in the English language, though the late Professor Koch provided a good one for the Germans. The present little work was originally produced in the form of three lectures, which were delivered at Gresham College in February, 1912, and were published in the *Medical Press and Circular* in April.

This popular and most interesting account of sleeping sickness ought to prove of value not only to explorers, missionaries, and merchants in Africa, but to all who are interested in medical science, or in the welfare of our Empire beyond the seas.

EUGENICS AND THE DRAMA.—"Dramatic form is most effective in driving home a social lesson. . . . Pardon me, kind sirs, for 'butting in.'" So writes Mr. G. Frank Lydston in the preface to *The Blood of the Fathers*, a four-act play which he has recently published.[1] The play is a plea for marriage control and regulation, and for the education of the laymen in matters sociologic. "It is meant to be a human document which will show that, in the conflict between man the intellectual and man the animal, the animal wins whenever and wherever primordial passion is in the saddle."

The central figure is a medical man, remarkably self-controlled, but with deep down in his composition a well of sentiment that finally leads to disaster. He falls in love with a "daughter of Ishmael," and marries her in spite of his better judgment. His wife turns out a "bad un," and he experiences hell upon earth. She proves to be the daughter of a notorious criminal, hence her innate badness; but here the licence of the dramatist steps in, and she conveniently takes prussic acid. Here is her elegy, pronounced by her husband. "The blood of the fathers! Poor Kathryn! you were wiser than you knew. You set things right—and you did it in the only way. The blood of the fathers! And our children yet unborn—and our children's children—they, too, thank God! are saved—and in the only way."

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[1] The Liberton Press, Chicago, 1912.

Room is thus made for the Eugenically suitable woman, and the curtain is rung down.

We take leave to doubt if the play will prove to have a serious educational value.

HISTORICAL MEDICAL MUSEUM AT INTERNATIONAL MEDICAL CONGRESS.—The following letter has been issued by Dr. Raymond Crawfurd:—

"TRAY'S HILL, HORNSEY LANE,
"LONDON, N., *6th February, 1913.*

"DEAR SIR,—I write to inform you that the Historical Medical Museum, organised by Mr. Henry S. Wellcome, has been affiliated to the section of the History of Medicine at the International Medical Congress to be held this summer in London.

"The Exhibition will be held in a spacious building, specially prepared for the purpose, with an entrance in Wigmore Street close to Cavendish Square.

"It is hoped that every medical institution and all those interested in the history of medicine will do their utmost by lending objects to further its success and to make the Museum one that has not been equalled elsewhere.

"Mr. C. J. S. Thompson, at 54A Wigmore Street, London, W., will be happy to furnish a syllabus and any further information on application, and will receive gratefully any offer of suitable loans. The catalogue is now in preparation so that early intimation of loans is earnestly requested. The Museum has been arranged on purely scientific lines, and no exhibits of a commercial character will be included.

"It would be of much assistance, and add also to the educational value of the Museum, if lenders would kindly attach a label to each object, giving a brief description, together with name and address of owner. Suitable labels will be supplied on application to Mr. C. J. S. Thompson at above address.

(Signed) "RAYMOND CRAWFURD, M.D.,
"*Hon. Sec., Section of History of Medicine,*
"*XVIIth International Congress.*"

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.

Session 1912-1913.

Meeting IV.—15th November, 1912.

Mr. A. Ernest Maylard *in the Chair.*

I.—OLD-STANDING RUPTURE OF THE LIGAMENTUM PATELLÆ TREATED BY PLASTIC OPERATION ON THE EXTENSOR QUADRICEPS.

By Mr. Henry Rutherfurd.

[Abstract.]

A man, aged 33 years, able-bodied ghillie, came under treatment in October, 1910, on account of disablement of his right lower limb of more than a year's standing. In getting over a fence he fell and struck his knee on the ground; on attempting to rise he fell again, and had to be assisted home.

Three weeks in hospital left him with an untrustworthy limb. He walked sideways, and when rowing in a boat locked the knee by inverting the leg. The patella lay on the femur above the articular surface.

An attempt was made to bring down the patella and anchor it to the anterior tubercle of the tibia with silk. The silk ligament broke as soon as the patient was allowed to make use of it.

A second operation was then done according to the plan described by Murphy, of Chicago, a flap being taken down from the outer half of the quadriceps and sutured to the tibia.

Two years after the operation the patient [shown] makes his living as a labourer, walking with confidence, carrying one foot past the other, able to go freely up and down stairs, with range of flexion to a right angle.

II.—OUTWARD DISLOCATION OF THE PATELLA: HABITUAL OR DEVELOPMENTAL.

By Mr. Henry Rutherfurd.

Three cases were referred to which had come under observation in the last two years, all in young adults—two male, one female. All were the subjects of a mild degree of genu valgum.

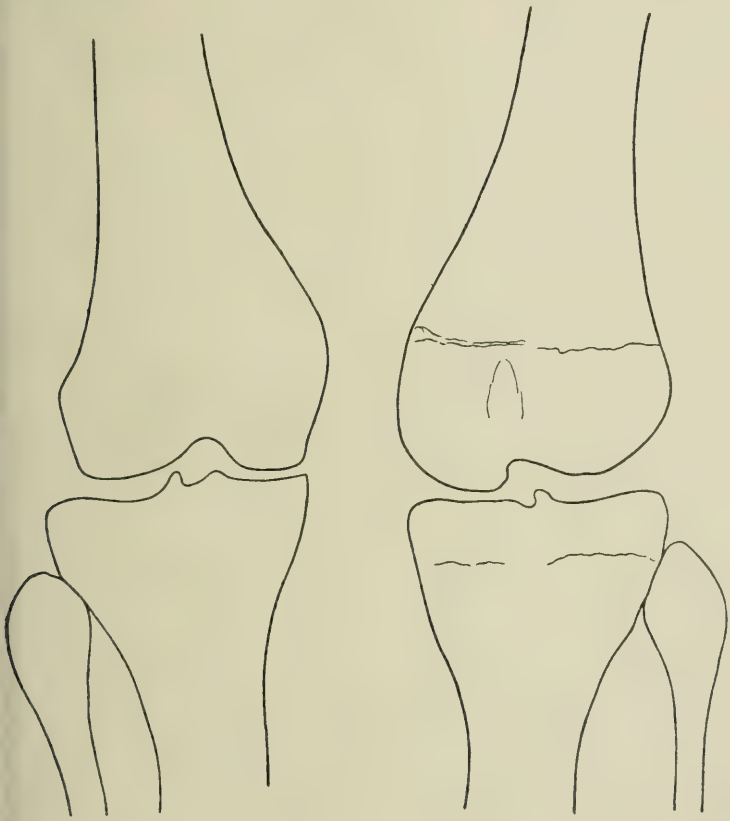


Fig. 1. Fig. 2.

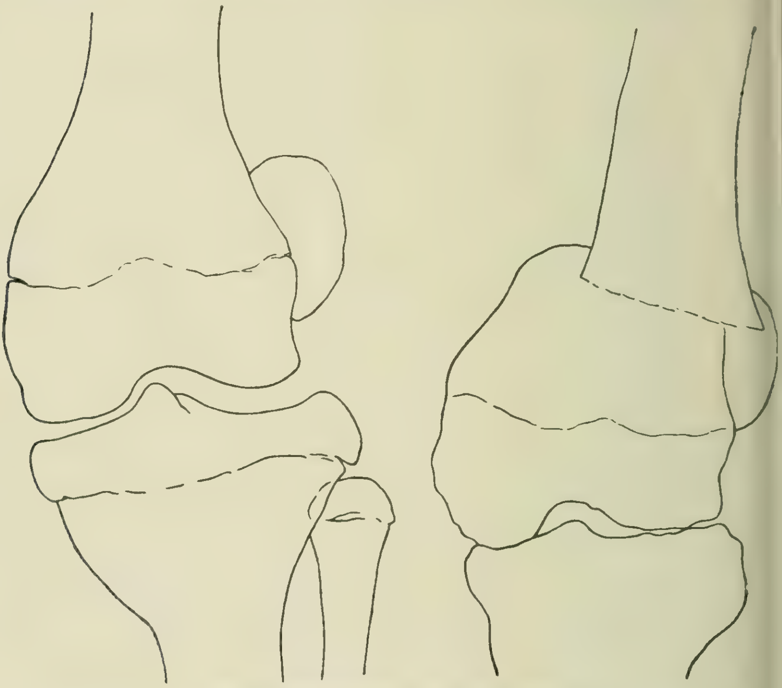
Outward Dislocation of the Patella (Case 1).

Skiagraphs (right and left) show faulty development of the external condyle of the femur on the affected side.

Case 1 (Figs. 1 and 2).—A young woman, aged

17 years, was operated on by osteotomy of the femur to correct the genu valgum, with no appreciable benefit two years later. She refused further treatment. Skiagraphs showed faulty development of the external condyle of the femur. (Tracing shown, reference to the single or double centre of the lower epiphysis of the femur.)

CASE 2 (Figs. 3 and 4).—A young man, aged 18 years, in whom, after correction of the genu valgum by osteotomy of the femur, the disablement persisted, and, as shown by the skiagraphs, the patella retained its position in the capsule of the joint. He was treated by transplantation of the patella, ligament, and anterior tubercle of the tibia, with free division of the joint capsule on the outer side of the patella. He had now returned to his work as an engineer, and was able to



OUTWARD DISLOCATION OF THE PATELLA (Case 2).

FIG. 3 (before osteotomy). FIG. 4 (after osteotomy).

Shows the futility of this operation; the patella retaining its position in the joint capsule.

go up and down stairs freely and with confidence. (Patient shown.)

Skiagraphs shown (*a*) of the developmental deformities of the outer condyle in Case 1, and (*b*) of the persistent displacement of the patella after osteotomy in Case 2.

Case 3.—The third case was that of a man, the subject of deformity and disablement, who had meantime refused operative treatment.

III.—CASES OF ACUTE INTESTINAL OBSTRUCTION OF MECHANICAL AND OF NON-MECHANICAL ORIGIN, TREATED BY OPERATION.

By Mr. Henry Rutherfurd.

A. Mechanical.

1. *Volvulus of the cæcum.*—Unmarried woman, aged 36 years, admitted to the Glasgow Royal Infirmary on 18th September, 1912, with abdominal pain, vomiting, and distension of forty-eight hours' standing.

The abdomen was opened in the middle line, when a distended and congested piece of the colon presented at once. Its limits could not be defined till it had been punctured and 12 to 15 oz. of fluid fæces drawn off along with gas. The bowel involved was then found to be the cæcum and lower 2 to 3 inches of the ascending colon, which had become sharply flexed on itself and rotated outwards, so that the lower end of the ileum crossed it to reach the ileo-cæcal valve.

The puncture was closed, the parts reduced, and the abdominal wound sutured in layers. Was given saline enemata, and by the third day the bowels had moved. But for an attack of broncho-pneumonia, probably associated with a very foul mouth, she made an uneventful recovery.

Later, after having her teeth attended to and having been sent to the country for a couple of weeks, an operation was done to fix the cæcum. In view of the mobility of the whole ileo-cæcal region of the bowel, it seemed inadvisable to make use of the appendix. The appendix was removed in the usual way, and a series of silk sutures made to attach the movable piece of colon to the postero-external abdominal wall, taking care that no gap was left to be a possible site of internal hernia.

The operation was done through an opening in the right rectus sheath. Recovery was without any complications.

2. *Irreducible intussusception treated by short circuiting —Gangrene—Extrusion of the slough by the abdominal wound—Death.*—Boy, aged 12 years, admitted to the Glasgow Royal Infirmary on 24th March, 1912, with acute obstruction of two and a half days standing (say, sixty hours).

From the day before the onset the bowels did not move, there being no passage of mucus or blood. On admission the abdomen was rather full, but not tense, hard, or tender. There had been persistent vomiting.

The abdomen was opened in the middle line, and the small intestine presented, much congested, and containing a large quantity of fluid.

An intussusception was found, the neck 8 to 9 inches above the ileo-cæcal valve, the mass being about 5 inches long. The entering bowel was much compressed and constricted; the receiving layer showed some ecchymoses. No reduction could be produced by manipulation, and a lateral anastomosis was made (ileo-ileac), the stoma being fully an inch and a half long. There was some free serous fluid in the peritoneal cavity.

Before returning the bowel into the abdomen, it was punctured above the seat of obstruction, and 8 oz. of green fluid drawn off.

Within a fortnight there was abdominal distension and pain, with frequent loose stools and a rise of temperature. The abdominal wound became a fæcal fistula. Through this, on 15th April, there was delivered a slough of the intussusception [shown]. The patient died on 22nd April, a month after operation.

The case was recorded with reference to the treatment of irreducible intussusception as discussed by Mr. Rutherfurd in the *British Journal of Children's Diseases* for September, 1910, and in a communication to this Society on 29th October, 1910, at which two children were shown in excellent condition two and a half years and five months respectively after a short-circuiting operation for the same condition.

In those cases a larger exclusion was done—ileo-colostomy, not ileo-ileostomy; possibly a more independent arterial supply had been of importance. Possibly, also, it might be of value to suture the entering to the receiving layer to prevent any escape of damaged intussusceptum.

B. Non-mechanical.

Reference was made to the comparative failure to recognise these causes by English writers, the most distinguished exception being the late Mr. H. Barnard in his article in the second edition of Clifford Allbutt's *System*, and, later, Mr. Miles in Choyce and Beattie's *System of Surgery;* see also *Wilm's Der Ileus* (*Dynamische Ileus*), and the *Lancet* (26th October, 1912, p. 1167), on "Traumatic Intestinal Obstruction."

1. *Acute intestinal obstruction from general injuries—Recovery after enterotomy and colostomy.*—A woman, aged 65 years, was admitted to the Glasgow Royal Infirmary on 17th November, 1911, with the following history:—Three days previously, when cleaning a window, she fell to the floor, and was unconscious for a short time. She was found to have a superficial scalp wound and a fracture of the right clavicle. Abdominal distension, with pain in the abdomen and vomiting, set in in the course of the next day. Flatus was passed that day, but none thereafter, and in spite of enemata there had been no movement of the bowels since the accident. There was a history of prolapse of the uterus for some years. Examination *per rectum* found no cause of obstruction in the pelvis.

The abdomen was opened in the middle line; the sigmoid was found empty and contracted, the cæcum distended, all the small intestine more or less distended. No tumours could be found in the colon, even after the small intestine had been tapped in two places to facilitate the examination.

The median wound was closed, and a right colostomy done. Patient was relieved, but the tube in the cæcum did not begin to drain well till about forty-eight hours later. Patient was thereafter troubled with retention of urine, which came on as incomplete emptying of the bladder, and required the use of a catheter for some weeks.

Two months later (29th January, 1912) the central scar was excised, and the colon examined in a flaccid abdomen. No tumour having been found, the wound was closed and a plastic operation done on the cæcal fistula. The latter operation not having turned out quite satisfactory, a further operation was done on 9th February, when the cæcum was freed, and, after inverting the edges of the opening, dropped back into the abdomen, the wound in the wall being closed in the usual way.

On 21st October this patient came to report. She was in excellent condition, and had no difficulty in regulating the bowels.

2. *Acute intestinal obstruction apparently due to enteritis from a surfeit of plums.*—A boy of 15 years was brought to the Glasgow Royal Infirmary on 30th September, 1912, with acute abdominal symptoms of forty-eight hours' standing. He was able to give an account of himself, but was in great distress, crying out, or, rather, groaning about pain in the belly, and vomiting. The pain was referred to the epigastrium, though the whole abdomen was distended. There was evidence of fluid in the flanks.

He said that on the 28th (Saturday) he was eating plums all day, having newly been employed by a fruit dealer. The symptoms began in the evening. When seen at 11 P.M. on day of admission, temperature was 97·8°, pulse 114, respirations 28. No urine had been passed since the morning. Catheter found a few ounces only.

The abdomen was opened in the middle line; it contained a large quantity of clear, yellowish fluid. The whole small intestine was much distended and congested (colour of voluntary muscle), but no fibrin was seen. The distension and congestion stopped sharply at the ileo-cæcal valve; the appendix was free, and apparently normal (removed).

The small intestine was opened at two places, and with a cannula fluid and gas were run off. The openings having been closed with purse-string sutures, the abdominal wound was closed in layers. The patient was put to bed with his shoulders well raised, and given saline solution *per rectum*, 10 oz. every three hours.

Two days later the bowels moved freely, and abdominal tenderness had disappeared; by 5th October he was taking milk, toast, and chicken. On 8th October, at the first dressing, suppuration was found in the wound; there had been no rise of temperature. It was suggested that this infection of the wound might be taken as confirmatory of the diagnosis of peritonitis of enteritic origin, the wound having been exposed to the ascitic fluid.

He left hospital about three weeks later with a sound scar, and has continued well.

IV.—REPORT OF THREE CASES OF PANCREATITIS, WITH TWO RECOVERIES.

By Dr. Alex. MacLennan.

Dr. MacLennan's communication was published as an original article in our issue for January, 1913, p. 23.

V.—CASE OF UNUSUAL TUMOUR OF THE LEFT BICEPS MUSCLE.

By Dr. W. F. Gibb.

M. H., aged 17 years, millworker, was admitted to the Royal Alexandra Infirmary, Paisley, on 19th August, 1912, on account of a tumour of the left biceps. She had noticed it first about a year previously. The only inconvenience complained of was pain in the arm when knitting. There is no history of injury. Her mother has had nine children; four are living, one died of brain fever, the others from teething.

Her general health has been quite satisfactory. Urine normal. The tumour, oval-shaped, firm, and with well-defined outline, was situated in the biceps muscle of the left arm, and extended almost the whole length of its muscular part, causing the biceps to appear at first sight as if unusually well developed. On closer examination one could feel that the more prominent part of the muscle was abnormally firm. The tumour was free from tenderness.

On reflecting the skin a thin sheet of the biceps was seen spread over the anterior surface of the growth. After dividing numerous small vessels, the growth was quite easily shelled out from the biceps, and it was then seen that the major portion of the muscle lay behind. The axilla was not opened.

The girl has been at work since the end of September, and feels quite well. Her arm gives no trouble. The circumference of each upper arm is 9 inches, and no enlarged glands are felt in the axilla.

REVIEWS.

Clinical Medicine: A Manual for the Use of Students and Junior Practitioners. By JUDSON S. BURY, M.D. Lond., F.R.C.P., B.Sc.Vict. Third Edition. Edited by JUDSON S. BURY, M.D.Lond., and ALBERT RAMSBOTTOM, M.D., M.R.C.P. With numerous Illustrations (some in colours) and 10 Plates. London: Charles Griffin & Co., Limited. 1912.

SOME eighteen years have elapsed since the first edition of this important work appeared, and Dr. Bury and his colleagues are to be congratulated on the latest issue of this valuable treatise, which reflects so much credit on the Manchester school of medicine. It is unnecessary at this time to give any detailed account of the book, but we may remark that after an introductory chapter, which deals with such subjects as case-taking, it proceeds to discuss in Chapter II subjective symptoms, and in Chapter III the examination of the surface of the body. Chapter IV, which is from the pen of Dr. A. E. Barclay, is a modern one on the examination of the deeper structures by means of the *x*-rays. The following chapters deal in succession with the temperature in health and disease, with the skin and its appendages, with the respiratory system, with the circulatory system, with the blood, with the digestive system and the abdominal organs, with the urine, with puncture fluids, and with the nervous system.

The investigation of the venous pulse receives consideration, and the account which is given is mainly from the pen of Dr. James Mackenzie. It might have been well to introduce a figure illustrating Mackenzie's polygraph, particularly as there is an illustration of Dudgeon's sphygmograph which is really an integral part of the polygraph. We fail to notice any reference to inoscopy in the examination of pleural exudates. We observe on p. 407 the words "pneumonococcus" and "pneumonococci," and on pp. 408 and 409 the words "pneumococcal" and "pneumococci;" but this want of uniformity is doubtless due to an overlook in proof-reading. Even a very careful revision may fail to secure absolute perfection. We read on p. 286 that "Dr. Garrod has shown that during a paroxysm of acute gout, uric acid may be detected in the blood." A student of the present day would naturally assign this discovery to Dr. Archd. Garrod, F.R.S., whereas it was really made by his father, and recorded in the *Medico-Chirurgical Transactions* more than sixty years ago. Some of the figures are obviously produced from old blocks, and although they are not necessarily the less pleasing on this account, there are a few which might have been improved by modern methods. These, however, are small matters in view of the high standard of merit presented by the work as a whole, and we have pleasure in recommending it to all students and junior practitioners of medicine. We should add that there are hundreds of illustrations, including several coloured plates, and there is of course an index.

Report of the Medical Officer of Health of the City of Glasgow, 1911.

FASCINATING as the study of the vital statistics of a large city is, it is rather a disappointment to find that they are in the present case concerned with the results of 1911 and not 1912. The present Report is a volume in itself, of course, and must have necessitated much arduous work for its completion. The year 1911 was a census one, and the actual population of Glasgow, on the night the census was taken, was 784,496: already this figure has only a historical value. In connection with this point of population there might have been shown the difference between the population as estimated by the Registrar-General's method and the Medical Officer's own estimate.

Glaswegians will not be surprised to hear that during the year indicated a measurable quantity of rain fell on almost exactly 200 days out of the 365, and this figure is doubtless well under the average. The fact that snow fell on one day only is, however, both striking and encouraging to the city dwellers.

The marriage-rate for the year is slightly over those for the three years immediately preceding: the age incidence, however, is not given, and this prevents further question as to the age at marriage. It would have been interesting to know if the average age at marriage is still rising: if so, to what extent and in what proportion relative to the sexes. The birth-rate continues to fall. This seems as inevitable as the course of the bodies in the solar system and just as little likely to be altered. Further, the higher birth-rates are found, as usual, in those districts of the city where adequate provision for a numerous family is on a par with the boy's definition of an abstract noun—"something which doesn't exist."

The death-rate for 1911—namely, 16·44—is exceedingly satisfactory, and is only slightly in excess of that for 1910, the latter possessing the lowest death-rate on record for Glasgow at 15·66. This death-rate is not, however, corrected for sex and age distribution, and is thus so far fallacious. Among those causes of death showing substantial increases are whooping-cough, enteric fever, cancer, and pneumonia; among those showing decreases are measles, scarlet fever, diphtheria, and tuberculous disease *not phthisis.*

Infantile mortality shows insignificant change, and this problem is quite evidently one not yet in process of solution. The striking excess of mortality among illegitimate children is of sinister import, after making due allowances for what may be termed unavoidable causes of increase in the mortality in this class. No doubt, as pointed out in the Report, certain causes of infantile mortality are irremediable at present, such as "immaturity," but possibly this cause is again much more prevalent among illegitimate children than among those born under happier auspices.

Nature of attendance at birth.—It is very striking in this connection to read that of the total births notified 54 per cent had no medical attention. The ward figures are even more interesting: we find from them that in Langside 94·4 of births received medical attention, while in Broomielaw 22·9 only were favoured in this way.

The figures for still-births are essentially the same as those of the immediately preceding years.

The working of the Children Act of 1908 appears to be, on the whole, satisfactory. During 1911 there were 171 births registered in private lying-in houses. The Medical Officer of Health very properly suggests that further supervision of these houses is desirable.

In the section on infectious diseases it is interesting to note that the number of declarations of conscientious objections to vaccination is still on the increase; during 1911 such declarations were made in respect of 3,791 children.

Under diphtheria the death-rate is practically stationary, rather disconcerting when we have the advantages now of rapid diagnosis and apparently superior treatment. On the other hand, it is very comforting to find that the death-rate from enteric fever is less than one-third of what it was some twenty years ago; even here the decrease is not so great as that shown by other large towns of Scotland and England.

Typhus fever gives every indication of becoming an almost unknown disease in time in Glasgow.

The scarlet fever cases treated were fewer than in 1910, and the case-fatality-rate was only 2·9 per cent. Interesting tables with regard to "return" cases, "secondary" cases, and the effect of school holidays are given on pp. 52 and 53.

The death-rate from phthisis is slightly in excess of the rate during 1910, but is still less than half that obtaining during the decade 1881-90. The year 1910 was the first year of compulsory notification of this disease, and the results are here incorporated in a special report.

In Section IV is given an account of the house accommodation of the labouring classes and proceedings under the Housing of the Working Classes Acts or otherwise. In this connection some excellent plans are appended.

The appendix is mainly taken up with the usual tabular enumerations.

Forty-second Annual Report of the Operations of the Sanitary Department of the City of Glasgow for the Year 1911. By Peter Fyfe.

In the first part of this Report there is some overlapping with the Report of the Medical Officer of Health for the same year, but probably this is unavoidable where the work itself is in parts common to both.

A noteworthy fact brought out in this Report is that the actual increase in the population during the decade 1901-11 is only one-tenth of the natural increase obtained by the excess of births over deaths in that period. This is a striking fact, and may well give rise to serious reflections.

Under "Proceedings under the Sale of Food and Drugs Acts" it is disquieting to see that 14·2 per cent of the statutory samples taken were certified as not genuine, an increase of 1·7 per cent over the figures for 1910. Milk, butter, and margarine naturally account for the great majority of the samples taken. The whole of this section makes interesting reading, and it is a pity that the general public should not have easy access to a summary of Mr. Fyfe's report in this connection.

Smoke abatement still gives trouble. Soon the necessity of conserving the fuel will automatically remedy this in great part without action on the part of the authorities.

The Appendix to the Report contains numerous explanatory tables, which are useful for reference.

The Statistical Report of the Ambulatory Patients of the Quinton Polyclinic for Treatment by Isotonised Sea-water, July-December, 1911.

THIS is a tabular summary of a large number of cases of various forms of disease, chiefly, however, enteritis and gastro-enteritis, with sea-water made isotonic with the blood. The treatment was carried out in the Polyclinic at 57 Poland Street, London, and, perhaps naturally, the results on the whole appear to have been excellent.

The Report will be of service to those who wish to find what has been done in the direction indicated.

Aids to Tropical Hygiene. By MAJOR R. J. BLACKHAM, R.A.M.C. London: Baillière, Tindall & Cox. 1912.

WHILE in many respects tropical hygiene is under the same general laws as that of temperate climes, there is sufficient difference in many details to render Major Blackham's little book of distinct interest and value. It should serve as a primer to the candidate for the Diploma in Tropical Medicine, as it is compiled by one who is evidently *au fait* with all the conditions in the tropics which render modification and, in some instances, amplification of the fundamental principles of hygiene itself desirable. For example, we have in this country well-marked seasonal variations of disease; in true tropical climates there is no division of the year into seasons as we understand the term, although the "rainy" season may indicate the period during which the greater proportion of the annual rainfall occurs.

The effect of considerable altitude in rendering certain parts within tropical limits areas of "perpetual spring" is pointed out by the author. The effect of altitude, unless the latter is essentially trifling, is exceedingly important, and is often lost sight of.

In recording temperatures the author mentions the separate maximum and minimum thermometers, but the combined form might have been described with advantage.

The section on "Climate and meteorology" is remarkably clear and informative as a whole, and in the seventeen pages of this section the student will find many definitions which he would do well to assimilate.

Under "Air and ventilation" the author gives a short *résumé* of the facts which are found in all the text-books on hygiene, but does not, except in a general way, attempt to vary these factors for the conditions existing in the tropics. No mention is made of the recent processes for ozonising the air, but in a small handbook of this sort this is not really such a vital omission. In a general way the same remarks apply to the chapters on "Food and feeding" and "Water and water supplies."

The chapter on "Clothing in the tropics" will be found of considerable service, though again rather general in its terms; a more detailed description of clothing suitable for tropical latitudes is often desiderated in this country.

There are two good chapters on "Disposal of refuse" in the tropics and the "Disposal of the dead."

Chapter IX, on "Insects and disease," is not only the best in the book, but is admirable alike in conception and treatment. The student will find this chapter most helpful, and it contains much which will be sought for in vain in many of the more pretentious text-books on hygiene.

The chapters on the "Prevention of malaria" and on "Disinfection" are also exceedingly good, while the inset tables at the end are of special value, especially the first, which shows the preventive measures recommended in certain tropical diseases.

Foods: Their Origin, Composition, and Manufacture. By WILLIAM TIBBLES, LL.D., M.D. (*Hon. Causa*) Chicago, L.R.C.P.Edin., M.R.C.S.Eng., L.S.A.Lond. London: Baillière, Tindall & Cox. 1912.

THIS book is an attempt to collect into one systematic whole a large mass of literature scattered throughout many books, journals, magazines, bulletins of governmental departments, &c. It may be said at once that the author has succeeded admirably in producing a readable and useful work of reference on the subject, which, while not quite exhaustive, will supply all the information required by the ordinary medical man. Where necessary, the reader is referred in a footnote to the original papers.

The first part of the book is devoted to the chemical constituents of animal and vegetable foods, and the classification and characters of the proximate principles of foods. Then practically every food in common use in any part of the world is discussed. The source, place of origin, composition, and method of preparation of animal and vegetable foods are given with sufficient fulness, and in many cases the methods of cooking and some historical references are added. In addition, condiments, spices, and beverages are dealt with.

It is most interesting and easily read, and is a veritable mine of information, not only for common foods, but also for many uncommon or out of the way things. The diction is fairly concise, and there is no padding of any kind, yet the book extends to almost a thousand closely printed pages, and would be much larger if smaller print had not been used for some of the paragraphs dealing with special substances or special processes.

Every chapter is good, but those dealing with meat, milk, cheese, butter, and breadstuffs are probably the best. One is not inclined to emphasise defects where these are of a minor nature; here and there one finds a few unnecessary repetitions, and the index might be improved, though where such an enormous mass of material is treated it would be difficult to make an absolutely full index.

This is a very good book, and can be heartily recommended to medical men.

Prescribers' Formulary and Index of Pharmacy. By THOMAS PUGH BEDDOES, M.B., B.C. Camb., F.R.C.S. Eng. London: Baillière, Tindall & Cox. 1912.

THIS book is very small in bulk, and will easily lie in the waistcoat pocket. The objects for which it is written are stated to be, first, to supply information the prescriber may need at the time a prescription is being written, and, second, to aid the pharmacist to avoid misinterpreting the wishes of the prescriber.

It is divided into four parts, namely, internal treatment, regional treatment, external treatment, and synthetic preparations.

By adopting certain abbreviations and conventions in the methods of description a remarkably large number of drugs and combinations of these is included. On the whole, once the plan of the book has been mastered, it is easy to find what one is looking for if the substance is referred to. In essence the book seems to be a sort of specialised index compiled from a number of larger works and from the price lists of various large druggists. At the same time it must be admitted that it points the way to many useful combinations of old and new drugs.

For those who require a convenient pocket *aide mémoire* it will probably serve a useful purpose, but it cannot in any way replace the larger works of reference.

Third Report of Deptford School Clinic or Health Centre for School Year, 29th August, 1911, to 30th July, 1912. London: P. S. King & Son. 1912.

THIS comprises reports by the three doctors to the clinic, by the lady in charge of remedial gymnastics, and by the dentist, and a financial statement and commentary by Miss Margaret M'Millan.

It is a story that shows vividly how much requires to be done medically for school children, and yet in spite of what has been done the doctors say, "the only real remedy, to our thinking, is a big increase in the wages of the Deptford working man."

The report mentions that a night camp and a day camp have been instituted in addition to the school clinic. The cost of treatment for the 6,500 children (new cases) attended to works out at about 3s. 3d. per head. The London County Council provides rather more than half of the money expended, the rest coming from private sources. It is a most interesting document.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

EDITED BY ROY F. YOUNG, M.B., B.C.

MEDICINE.

The Action of the Vagus on the Human Heart. By W. T. Ritchie (*Quarterly Journal of Medicine*, October, 1912).—The vagus was stimulated by pressure with the finger on the carotid artery and vagus at the level of the cricoid cartilage; the pressure usually lasted about five seconds. Paralysis of the vagus was produced by the subcutaneous injection of 0·02 to 0·03 grain of atropine sulphate. The author does not think there is danger in vagal pressure. In only one case was there a sensation of faintness produced.

The effect on the auricles is first considered. Compression of the right vagus may depress the rate and strength of the auricular beats, may prolong auricular systole, and may depress the conductivity of the auriculo-ventricular bundle. The fibrillating or fluttering auricle is not influenced by compression of the right vagus. Depression of conductivity is probably an important factor in the production of fibrillation in the human heart.

The ventricles in normal hearts may respond to vagus pressure by showing depression in rate and in contractility. Less frequently there may be prolongation of the duration of ventricular systole. The depression of ventricular rate is usually proportionate to the degree of auricular retardation. In three cases of complete auriculo-ventricular dissociation the vagi had no apparent influence on the ventricles.

In some cases the auricles escape from vagus inhibition before the ventricles; in others, ventricular stand-still may perhaps terminate by the occurence of idio-ventricular contractions. Extra-systoles may occur during the escape of the heart from vagus inhibition.

Compression of the right vagus is usually more effective than of the left, and the former usually produces reverse results to those produced by atropine.

The paper is illustrated by numerous pulse tracings and electrocardiograms.

—G. B. Fleming.

Auricular Fibrillation and Complete Heart-block: A Description of a Case of Adams-Stokes Syndrome, including the Post-mortem findings. By Conn and Lewis (*Heart*, vol. iv, No. 1, p. 15).—There was a history of the patient having had syphilis; fits, with cessation of ventricular action; slow ventricular rate; and absence of a compensatory pause after premature ventricular beats—all pointing to the diagnosis of heart-block. There was also absence of *a* waves in the jugular pulse, absence of P waves in the electrocardiograms, and fibrillation oscillations in the electrocardiograms—all indicating auricular fibrillation. The Stokes-Adams syndrome appeared before death, and continued off and on till death. The man died in a fit. During the last phase the pulse sometimes rose to 60 or 80 per minute, and this increase in rate was always followed by a long pause.

At the *post-mortem* there was found :—Pericardial adhesions ; great dilatation of the right auricle, and to a lesser degree of the left auricle ; both ventricles dilated ; an intracardial aneurysm at the level of the *a-v* ring pressing on the coronary sinus and node ; a little thickening of the coronary arteries ; the brain normal ; the vagus and sympathetic nerves appeared normal.

Microscopic examination.—There was fibrosis of both auricles and ventricles. The sino-auricular node in its upper third was completely destroyed by connective tissue ; in its lower two-thirds there was excess of connective tissue and endarteritis. The auriculo-ventricular node was normal. The bundle of His was cut across at the membranous septum by fibrous tissue. Both branches were also cut across by similar tissue. The sympathetic nerves showed hæmorrhages.—G. B. FLEMING.

"Observations on Auricular and Nodal (?) Extra-Systoles." By Lasslett (*Quarterly Journal of Medicine*, vol. vi, No. 22, p. 209).—Three cases are described. In the first two tracings are shown which the author considers demonstrate the rhythmical appearance of auricular extra-systoles.

The third case was first seen during an attack of paroxysmal tachycardia, probably due to auricular fibrillation. The patient recovered from this, but since then has had a very irregular pulse. The irregularity was probably due to auricular and nodal extra-systoles. Sometimes there were short bouts of auricular tachycardia preceded by an auricular extra-systole, and ending with a pause of the same duration as that succeeding the introductory extra-systole. The relationship between paroxysms of regular tachycardia, extra-systoles, and auricular fibrillation is remarked upon. Both the auricular and nodal extra-systoles were sometimes followed by a pause which was shorter than the normal pulse period. The nature of the pause after an auricular extra-systole is discussed, and it is suggested that occasionally an auricular or nodal extra-systole may be interpolated with simultaneous depression of the sinus rhythm.—G. B. FLEMING.

"Congenital Family Steatorrhœa." By Garrod and Hurtley (*Quarterly Journal of Medicine*, vol. vi, No. 22, p. 242).—A short account of the cases previously recorded is given. There seem to be no other cases recorded in which the steatorrhœa was of congenital origin.

The patient was a boy, aged 6 years. He was brought to hospital because his mother said "he passed grease" from his bowel. He was one of a family of five. One other child who was dead had also "passed grease" by the bowel. His parents were first cousins. Except for this unfortunate affliction of passing grease in his motions the boy was quite healthy. Microscopic examination of the stools revealed many fat globules and fatty acid crystals, but no starch granules nor undigested muscle fibres. There was no obstruction of the bile ducts as the stools contained bile salts and altered bile pigments. The tests for pancreatic efficiency gave results which lent no support to the idea that there was pancreatic disease. Careful quantitive estimations of the fat content of the stools were made, the neutral fat, fatty acids, and soaps being estimated, while the boy was on certain standard diets containing known quantities of fat.

On diet A (one containing a large quantity of fat) the patient and a normal boy of the same age excreted fat in the following proportions :—

	Fat in Dry Fæces.	Neutral Fat in Total Fat.	Total Split Fat in Total Fat.
Normal boy, .	14·5 per cent.	52·1 per cent.	47·9 per rent.
Patient, . .	79·4 ,,	61·4 ,,	38·6 ,,

Very numerous observations were made, and they all showed a very high percentage of fat in the stools. On a rich diet there was some impairment of the fat splitting process ; but with a diet containing less fat the ratio of split to unsplit fat is not excessive. The error is one of fat absorption. It was uninfluenced by the administration of various preparations of pancreas and bile. The authors consider that the condition is probably due to the absence of some unknown pancreatic secretion which favours the absorption of fats. The condition is probably analogous to other inborn errors of metabolism, such as alkaptionuria and cystinuria.—G. B. Fleming.

SURGERY.

A Simple Operation for Hæmorrhoids. By Professor Carl Bayer, Prague (*Zentralbl. f. Chirurgie*, 28th December, 1912).—The author recommends a simple procedure, which he thinks superior to all other operations for hæmorrhoids.

The anus is stretched with the index fingers until the piles protrude. A hæmorrhoid is seized with Péan's forceps and traction made. An incision, about 2 cm. long, is made with the thermo-cautery, to undercut the pile, where skin joins mucous membrane.

A puckering suture of strong silk is now passed, on a needle, into one end of the mucous membrane edge of the wound, through and through the mucous membrane, round the pile, and out at the other extremity. The ends of this are firmly knotted in the wound and are left long.

The pile is now cut with the thermo-cautery almost level with this ligature, and the stump treated with iodoform. The cautery wound is closed with one or two sutures. Each hæmorrhoid or closely arranged group is treated thus.

Finally, the long ends of suture ligatures are drawn upon until normal mucous membrane shows, when a drainage-tube, covered with iodoform gauze, is inserted. The sutures are cut close, and then a dressing of aluminium acetate applied.—Charles Bennett.

A Simple Device for Cutting Open Hardened Bandages. By Dr. Walter Neumann (*Zentralbl. f. Chirurgie*, 14th December, 1912).—Plaster of Paris bandages and the like, in the set condition, can be cut through very easily and neatly with piano wire. In the method here described, the rigid bandage is cut through by a loop of wire passed under it and wound on to a suitable instrument. The pressure is directed along the bandage, and is at no time perpendicular to it; therefore, all injury of the patient's skin is avoided. The bandage must be hard—the harder the better. The technique is as follows:—

After the soft packing has been applied and fixed with a turn of bandage, a well-waxed drawing-string is doubled and laid along the padding and left there. This is afterwards used to pull the wire through. The plaster is then applied, and, to prevent the string being fixed while hardening is taking place, the string is moved up and down occasionally. To cut the bandage, a piece of piano wire, fully twice as long as the part of limb covered with bandage, is taken, and one end is bent like a hook. This is hooked on to the loop of the drawing-string and is drawn through under the plaster. One end is led back over the bandage until both ends are together at one extremity of the plaster. The ends are fixed to the winding instrument, which is then set working, and in a few seconds the plaster is cut through.

No description of the winding instrument is given, but the illustration shows it to consist of a spindle passing through a cylinder on which the wire is wound. The spindle is operated by a hand lever with a ratchet, and, as the machine travels along, the wire cuts through the plaster. Dröll, Heidelburg, manufactures the instrument.—Charles Bennett.

On the Elimination of the Vermiform Appendix. By S.

Kofman (*Zentralbl. f. Chirurgie*, 14th December, 1912).—In operating for appendicitis the surgeon frequently comes upon such extensive matting of parts that it is only with the greatest difficulty he can isolate the root of the appendix, not to mention the tip. Almost insuperable difficulty is occasionally met with when a retro-cæcal position of appendix is complicated by strong adhesions to the posterior abdominal wall. The isolation of an appendix so concealed may lead to such disagreeable consequences that in these cases one sometimes desists from performing appendectomy. In one such case the author decided to merely throw the appendix out of action.

J. A., 14 years of age, a boy of fairly good constitution, who had had several attacks, came into hospital with symptoms of acute appendicitis; illness of five days; temperature, 38·5° C.; and severe pains in the ileo-cæcal region.

Treatment.—Rest in bed; no food; cold applications.

On the twentieth day after admission operation was hurried on for extraneous reasons. Oblique incision, two fingers' breadth, internal to anterior superior spine; blunt separation of muscles; opened peritoneum. The exploring finger felt appendix lying on the posterior wall. With great difficulty the cæcum and shrivelled omentum (in a mass) were brought forward. After separation of strong adhesions the root of the appendix was made out. This part of it was cleared as well as possible. The appendix was pinched off cæcum, and the stump turned in with purse-string suture. A ligature was tied round the appendix, and 1 centimetre of this cut away. The lumen was closed with two Lembert sutures, and covered with a lump of omentum. The bowels were replaced, and the abdomen closed in three layers. Progress was uninterrupted.

The operation is very simple, and, even if not radical with regard to the appendix, it ensures against recurrence.—CHARLES BENNETT.

DISEASES OF THE EAR.

Malignant Disease of the Ear (*Journal of Laryngology*, December, 1912).—There were several interesting cases of malignant disease of the ear shown at the Otological Section of the Royal Society of Medicine at the meeting held on 18th October, 1912, some particulars of which may here be given with advantage.

Dr. Dan. M'Kenzie showed a patient with epithelioma of the meatus. The patient was a man, aged 52 years, who had had suppuration of the middle ear (left) for twenty years. Pain and facial paralysis had come on recently. The fleshy and tender nature of the polypoid growth in the meatus raised the suspicion of malignancy, and this suspicion was confirmed by the microscope.

An attempt was made to remove the epitheliomatous new growth by first performing a mastoid operation, and then removing the bony and membranous meatuses. Suppurating granulations were found in the middle ear. The epithelioma appeared to originate in the meatus.

Recurrence was observed six weeks after the operation and the disease was advancing. The recurrent disease seemed to grow outwards, and thus differed, Dr. M'Kenzie remarked, from cases of epithelioma of the tympanum in which the disease tends towards the naso-pharynx.

Dr. William Milligan showed two cases, the first being a man, 65 years of age, who had had a carcinoma of the external ear. It had begun as a small hard nodule on the free border of the helix which broke down and ulcerated, and the ulcerative process was followed by an enlargement of the peri-auricular glands. The auricle was removed in this case.

His second case was a man, 20 years of age, who at the age of 3 had suffered from post-scarlatinal middle-ear suppuration. On admission to hospital he was found to be wholly deaf on the affected side, he had had repeated attacks of vertigo, there was slight œdema over the mastoid process, displacement of the auricle, and the meatus was filled with a greyish sloughy-looking polypus, and there was complete left-sided facial paralysis. When the mastoid cells were opened they were found to be invaded by new growth apparently springing from the inner wall of the inner ear. The question of the site of origin was discussed, and the opinion was expressed that it had originated external to the tympanic cavity, and possibly in the parotid gland.

A case of epithelioma of the auricle and external auditory canal was shown by Dr. Hunter Tod. The patient was a woman, 76 years of age. Her tragus had been removed four years ago, and she had had treatment by *x*-rays and by radium. The external auditory meatus was now filled with a polypoid growth, and a superficial ulceration was spreading outwards along the concha. What should be done for her was asked, and the opinion of the majority of those present who had examined her was that further operative treatment should be adopted.—WALKER DOWNIE.

The Relation of the Posterior Sinuses to Painful Conditions of the Ear. By J. H. Bryan, M.D., Washington (*The Laryngoscope*, December, 1912).—Dr. Bryan here relates three cases in which patients had suffered from inflammation with suppuration of the frontal, ethmoidal, maxillary, and sphenoidal sinuses, and in each of whom earache was a prominent symptom. In two of the cases the pain referred to the ear was wholly relieved by radical operation on the affected sinuses. The author thinks that, while trigemenial neuralgia resulting from sphenoidal disease has been recognised for some time, rhinologists and aurists have not given sufficient attention to the reflex pain in the ears, due to irritation of the vidian nerve, which courses along the inferior border of the ordinarily well-developed sphenoid sinus.—WALKER DOWNIE.

Acute Otogenous Meningo-Encephalitis. By G. Alexander, of Vienna (*Les Archives Internationales de Laryngologie, d'Otologie, et de Rhinologie*, November-December, 1912).

The Treatment of Meningitis of Otitic Origin. By W. Milligan, of Manchester (*Lancet*, 25th January, 1913).

These two communications together form a valuable contribution to the study of this the most serious complication of aural suppuration.

Alexander says—"The progress in the treatment of otogenous intracranial complications has stopped short of otogenous meningitis. Even to-day we are unarmed in the presence of the majority of these cases." Milligan states the same in a different way:—"Of the various intracranial complications consecutive to diseases of the ear, there is no one which is at times more difficult to diagnose and, up to the present, more disappointing in its treatment than meningitis."

Alexander classifies otogenous meningitis as follows:—

1. Meningitis in *acute* middle-ear suppuration without other complication.
2. Meningitis in *chronic* middle-ear suppuration without other complication.
3. Meningitis with brain abscess.
4. Meningitis with sinus thrombosis and extra-dural abscess.
5. Meningitis in labyrinthine suppuration.

Amplifying this classification, he divides the cases into early and late meningitis.

Milligan, adopting another point of view, divides otogenous meningitis into serous, plastic, fibrinous, and purulent, though he insists—and with this few who have experience will disagree—that these subdivisions are arbitrary, and are merely so many phases in one pathological entity. This point cannot be too strongly pressed, for on it rests a proper appreciation of the disease and a rational procedure in its treatment. From it also follows the great importance of early diagnosis, on which emphasis is laid by both observers.

Alexander reports at length seven cases of otogenous meningitis in which recovery followed surgical treatment. This consisted in the removal of the aural disease, tympanic mastoid, labyrinth (if the labyrinth was involved), combined with laying bare the dura mater of the middle and posterior fossæ over a comparatively large area, and lumbar puncture. This last procedure has a therapeutic as well as a diagnostic value. The dura was incised or not at the time, according to the case and to the appearances found. When incised the œdematous brain tissue crowded into the opening in the bone. Besides the ordinary symptoms, which in some of these cases were very severe, examination of the spinal fluid furnished certain evidence. In some it was still clear, but it escaped under much increased pressure; while in others it was turbid, and its histological examination showed lymphocytes and polymorphonuclears. In all the cases, however, it was sterile.

Even apart from the eminence of the observer, the recital of these cases gives convincing proof that they were undoubted cases of true meningitis, and their recovery was due to their early recognition and to the vigorous surgical treatment adopted.

Milligan, too, founds his line of treatment on early diagnosis. With his usual lucidity he shows the continuity of the different phases of meningitis—first the attack on the meninges by the micro-organisms causing increased formation of cerebro-spinal fluid; then, as the fight becomes fiercer, we get further evidence of inflammatory phenomena in the appearance of lymphocytes and polymorphonuclears; and, last of all, when the micro-organisms have got the upper hand they, too, appear in the fluid. Early diagnosis, then, is our great aim.

The clinical phenomena are fairly well recognised. Milligan refers to increased blood-pressure in the early stages, and to a lowering of the upper tone limit which he has observed in a few cases.

The examination of the spinal fluid, chemically as well as histologically, is of great importance. Normally it is alkaline, and so a decreasing alkalinity or definite acidity is of grave import. Another chemical test is founded on the fact that the fluid normally contains a glucose which reduces Fehling's solution. As the fluid becomes purulent, this reducing power diminishes till, in a fully developed case of purulent meningitis, it is absent. Normal spinal fluid gives only a slight haze on boiling; in the purulent state this is much increased.

Histologically, in a progressive case of meningitis the cell elements in the fluid increase. In the stage of serous meningitis we may get a few lymphocytes and perhaps a few polymorphonuclears. Later, when it has become definitely purulent, we find an enormous increase in the leucocytes—chiefly polymorphonuclears—and a moderate increase in the lymphocytes. In the early stages bacteria are not found. [It is well to remember that the fluid may be markedly turbid and yet sterile.—W. S. S.]

Milligan then goes on to discuss the lines of treatment. In the early stage—the stage of increased intracranial pressure, due to the increased formation of fluid—the withdrawal of the fluid by lumbar puncture not only relieves this pressure but wards off the profound anæmia of the brain which this pressure might cause. Later on, lumbar puncture, he says, has little therapeutic value.

As surgical measures, the first, of course, is the removal of the aural disease, and, if the labyrinth is involved, is opened and translabyrinthine drainage may be used. As regards the direct treatment of the meningeal infection, the objects to be borne in mind are—

1. Relief of the intracranial pressure.
2. The establishment and maintenance of free drainage from the meninges.
3. The overcoming of the existing toxæmia.

To drain the pia-arachnoid the dura may be dealt with in several ways—

1. By excising narrow strips in parallel rows.
2. By raising as large a flap as the bone wound permits.
3. By removing entirely the dura corresponding to the bone wound.

He refers to Ballance's method of attacking the meninges by the occipital route, and to methods of draining the cisterna magna, describing in detail that suggested by Haynes through the cerebello-medullary angle, a method he has carried out in two advanced cases, though without success.

Referring to vaccines, Milligan is not enthusiastic, though he says an autogenous vaccine may help. Urotropin may be given by the mouth, as it it said to appear, partly as formaldehyde, in the cerebro-spinal fluid.

As showing the value of early diagnosis, of 37 cases treated in the stage of meningitis serosa, 29 recovered. Of 14 operated on when the disease had reached the purulent stage, 4 recovered.

These papers should be studied not only by the aural surgeon but by the general practitioner, for it is to the latter we must look in many cases for the early diagnosis which makes it possible for operation to be followed by a successful result.—W. S. Syme.

DISEASES OF THE EYE.

Acromegaly—Tumour of the Hypophysis Cerebri—Ocular Symptoms—Treatment by Organo- and Radiotherapy—Cure (?)—Recovery of Vision and Visual Field. By Dr. Charles Cauvin, Nice (*Archives d'Ophtalmologie*, November, 1912, vol. xxxii, No. 11, p. 657).—In a long and interesting paper Cauvin records the history, symptoms, and treatment of a lady of 22 years, who was the subject of acromegaly. The special feature of the case is, undoubtedly, the good results which followed on treatment, especially as regards the ocular symptoms, but also as regards general symptoms.

The case was a typical one, and began as usual very mildly. The first symptom complained of was difficulty of maintaining the visual effort and a sensation of looking through a mist or veil. Menstruation ceased about the same time. The defect in the field of vision was not noticed until eight months later when the appearance of the patient's hands attracted attention and the field of vision was examined. Bi-temporal hemianopsia was discovered and the diagnosis was confirmed by radiography—the sella turcica being found destroyed as it were.

Treatment, aimed at the hypertrophy of the hypophysis, consisted of a series of injections of hypophysine—twelve in a series—one every day or every second day. The series of injections were repeated from time to time eleven times; series of ovarine injections were also instituted and completed four times.

In the course of the disease head pain became very violent, and radiographic treatment was tried and quickly brought relief from this very distressing symptom.

The mode of using the treatment was as follows:—The skull was mapped out into five areas for application with the object of reaching the hypophysis from as many points as were convenient. An aluminium disc, 1 mm. thick, was used as a ray filter and a tube giving hard rays was employed (8-9 of Benoist's radio-chronometer). The dose at each point was a maximum one (of 5 units H).

Seventeen series of irradiations at five points were given within two and a half years.

The patient improved under this treatment in a surprising manner, and the vision of the right eye, which had been entirely abolished for over a year, returned and rose to $\frac{1}{10}$ fully. The visual field of this eye did not improve. The vision of the left eye, which was as low as $\frac{1}{10}$ for about four months, improved steadily until $\frac{9}{10}$ was reached at the time the case was recorded. The field of vision of this eye improved wonderfully, so that instead of having only half the normal field the patient had more than three-quarters.

The size of the hands and feet diminished, but the face did not appreciably alter its characters. The menstrual functions were not re-established.

The case was under supervison for nearly three years, and the author is still watching it with a view to further developments.—LESLIE BUCHANAN.

Should one always tell the Truth to Patients who are threatened with Incurable Blindness? By Dr. Eliasberg (*Archives d'Ophtalmologie*, November, 1912, vol. xxxii, No. 11, p. 679).—The question to which Dr. Eliasberg tries to give an answer in this paper is a very difficult one, and undoubtedly the answer must depend upon various conditions, such as the nature of the disease, the temperament of the patient, and also the condition and social status of the patient.

The author quotes opinions from authorities such as Javal, who became blind in consequence of glaucoma. Javal was a most eminent ophthalmologist, and after the disaster was finally established wrote a book of warning and instruction for the benefit of his *confrères* and their patients (translated into excellent English by Dr. Ernest Thomson, of Glasgow). In this work, entitled *Entre Aveugles*, he begs that the truth be told to all patients who are to become hopelessly blind, and that useless treatment be stopped and the patient prepared for a life of darkness before he enters it.

Javal, doubtless, was influenced by his own feelings in coming to the decision which he did arrive it, but one feels sure that he would not have liked to be depressed at the beginning, or any stage, for that matter, of a long, long battle with a most troublesome disease, by being told that he was eventually going to be beaten. Probably no man ever had a longer and more strenuous fight with a single eye disease than did Javal, and probably no man ever fought more bravely or bore his sore affliction with greater heroism than he did, but it is probable that he fought his fight much the more bravely that he had hope always before him, even though he but rarely mentioned it.

Alfred Graefe, like Javal, disliked hiding the truth from a patient, and by practice acted in accordance with his precept. It is said that on one occasion a man, afflicted with atrophy of the optic nerves, applied to Graefe for the exact truth as to his prospects of losing sight permanently, as he wished to settle his affairs. Graefe told him what he considered to be the truth and the man very soon after committed suicide. This was not Graefe's fault, of course, but possibly it might have been prevented by letting the man gently learn for himself of his unhappy condition.

Hirschberg is a strong opponent of the views that the patient should "know the worst," especially in the case of cataract where the early detection of a few striæ is sometimes triumphantly announced to the patient with the implied menace of surgical procedure in the future. All ophthalmic surgeons know and have seen again and again the type of case mentioned, and in many of these the striæ may be present for five, ten, or fifteen years, but no further developments supervene. To the patient who was told that "an operation would have to be done" the fear would ever be before or beside him, whereas ignorance of the possibility might, and probably would, do no harm.

Whilst alluding to this aspect of the case Eliasberg points out the fact, which is true, as many have learned to their cost, that sometimes a physician sees early striæ of cataract but says nothing of it to the patient, who then goes to another physician, who promptly tells him and thereby gains the confidence of the patient which the first physician never gained.

The real and important aspect of the question, however, is whether or not it is advisable to encourage a patient with hopes, which may prove elusive, in cases of grave disease such as atrophy of the optic nerves, glaucoma, separation of the retina, &c. If the patient is a wealthy man, Eliasberg points out, the hopes may do him good and he has not the haunting fear of starvation or poverty for his dependants to drag him down. On the other hand, a working man who saves little or nothing, and possibly has a family to provide for, might be told that his chances of retaining sufficient sight to enable him to gain a livelihood were very small, and advice might be given that education should be undertaken at once with the object of providing for the future.

A case of this kind came under notice of the writer of this review some time ago in which this aspect of the matter was strongly supported by the good sense of the patient.

A young man, married, and having three young children, came to seek an opinion as to his prospects of retaining vision, and asked for a frank statement of opinion. As the case was one in which practically no hope could be given, the truth was gently told to the man, who thereon said "thanks; that is what I wanted to know, as I have suspected this for some time and have been preparing my wife and myself for it." The brave fellow had been learning typewriting and Braille type reading, and had planned with his wife that he would do work in a typewriting concern.

For a less highly educated man there are many small occupations which are available, conspicuous amongst which are piano-tuning, tea-hawking, wood-cutting, &c. These require a little education, perhaps a good deal of education; but whatever degree of education is necessary, it is better undertaken by one who can see a little than by one who sees nothing.

Generally speaking, it may be conceded that a person who has seen well and understood what he sees or attained adult vision, as one may put it, will be more quickly able to make use of any attainments acquired in his seeing days than one who never practised or tried to practise a quite new and different occupation before losing his sight. This is quite a different condition of matters from that described in the famous case of the blind American guide, who being the subject of congenital cataract early became blind, but, nevertheless, attained a very high degree of proficiency as a guide in the woodlands and prairies of the Far West. Being advised by an oculist, misguided as it turned out, to have his eyes operated upon, he allowed this to be done and thereby gained vision, but lost his wondrous power of woodcraft. His vision was of no use to him, and he could not understand what he saw. Before having his cataract operated upon he was able to tell all sorts of things by feeling, but after operation this power left him, and an apple, put in his hand, had no meaning to him, whereas formerly he could distinguish not only what it was but if it was ripe or not.

It is an undoubted fact that the superintendents of blind asylums prefer to get blind children early, but this is largely in order to gain complete control of the little subjects, and it is also true that a large number of the inmates of these beneficent institutions are not blind, but have very defective vision, and are in danger of becoming worse. They are there to learn to earn their daily bread in ways which blind persons can practise.

The outcome of all this is, then, that it is only possible to say there is no definite rule to be followed. What is right and wise in one case may be utterly wrong in another. It may be wise to warn one man that he may be totally blind, and he, being wise, may follow advice given; but not improbably the next case of similar nature treated in this manner takes quite a different view, and acts in a quite unexpected manner.—LESLIE BUCHANAN.

Books, Pamphlets, &c., Received.

Manual of Operative Surgery, by H. J. Waring, M.S., M.B., B.Sc.Lond., F.R.C.S. Fourth edition. London: Henry Frowde and Hodder & Stoughton.

Second Annual Report of the State Charities Commission to the Honourable Charles S. Deneen, Governor of Illinois. Springfield: Illinois State Journal Co. 1912.

London Medical Publications: Diseases of the Eyes, by C. Devereux Marshall, F.R.C.S. Fully illustrated. London: Henry Frowde and Hodder & Stoughton. 1912. (10s. 6d. net.)

London Medical Publications: The Medical Diseases of Children, by T. R. C. Whipham, M.A., M.D.Oxon., M.R.C.P. With 67 illustrations. London: Henry Frowde and Hodder & Stoughton. 1912. (10s. 6d. net.)

Aids to Gynæcology, by S. Jervois Aarons, M.D.Edin., M.R.C.P.Lond. Fifth edition. London: Baillière, Tindall & Cox. 1913. (Cloth, 2s. 6d. net; paper, 2s. net.)

Elementary Clinical Pathology for Nurses, by George Herschell, M.D.Lond., and Richard Weiss, Ph.D., M.A., F.C.S. Second edition. London: J. & A. Churchill. 1913. (1s. net.)

My System: 15 Minutes Work a Day for Health's Sake, by J. P. Muller. With cinematograph illustrations and a time table. London: Ewart, Seymour & Co., Limited. 1912. (2s. 6d. net; post fee, 2s. 9d.)

The Diseases of the Skin, by Wilmott Evans, M.D., B.S., B.Sc,, F.R.C.S. With 32 illustrations. London: Henry Frowde and Hodder & Stoughton. 1913. (10s. 6d. net.)

The Treatment of Disease in Children, by G. A. Sutherland, M.D., F.R.C.P. London: Henry Frowde and Hodder & Stoughton. 1913. (10s. 6d. net.)

A National Medical Service: Fabian Tract No. 160, by F. Lawson Dodd, M.R.C.S., L.R.C.P.Lond., L.D.S., D.P.H.Eng. London: The Fabian Society. November, 1911. (2d.)

Special Medical Part of the Proceedings of the Society for Psychical Research. Vol. XXVI. Glasgow: Robert MacLehose & Co., Limited. November, 1912.

The Insanity of Genius and the General Inequality of Human Faculty, Physiologically Considered, by J. F. Nisbet. Sixth edition. With a Preface by Bernard Hollander, M.D. London: Stanley Paul & Co. 1913. (5s. net.)

Transactions of the Thirty-Fourth Annual Meeting of the American Laryngological Association. New York: Published by the Association. 1912.

Digitalis Assay, by W. Harrison Martindale, Ph.D.Marburg, F.C.S. London: H. K. Lewis. 1913. (2s. net.)

A Manual of Elementary Zoology, by L. A. Borradaile, M.A. London: Henry Frowde and Hodder & Stoughton. 1912. (10s. 6d. net.)

Notes on the Treatment of Tuberculosis (Preventive and Curative), by John Laird. Bristol: John Wright & Sons, Limited. 1912. (2s. 6d. net.)

Human Physiology, by Professor Luigi Luciani, translated by Frances A. Welby, edited by Dr. M. Camis. With a Preface by J. N. Langley, F.R.S. In four volumes. Vol. II: Internal Secretion, Digestion, Excretion, the Skin. London: Macmillan & Co. 1913. (18s. net.)

History of the Medical Teaching in Trinity College, Dublin, and of the School of Physic in Ireland, by T. Percy C. Kirkpatrick, M.D., M.R.I.A. Dublin: Hanna & Neale. 1912. (7s. 6d. net.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FIVE WEEKS ENDED 15TH FEBRUARY, 1913.

	Week ending				
	Jan. 18.	Jan. 25.	Feb. 1.	Feb. 8.	Feb. 15.
Mean temperature,	33·3°	35·9°	37·5°	43·1°	42·2°
Mean range of temperature between highest and lowest,	8·1°	7·0°	7·9°	10·1°	7·6°
Number of days on which rain fell,	5	4	6	7	3
Amount of rainfall, ins.	0·59	0·87	1·67	2·02	0·41
Deaths registered,	363	437	444	434	406
Death-rates,	18·5	22·3	22·7	22·2	20·7
Zymotic death-rates,	1·8	2·0	2·1	2·4	1·2
Pulmonary death-rates,	5·4	6·6	7·7	6·8	5·9
Deaths—					
Under 1 year,	63	79	91	78	75
60 years and upwards,	108	135	122	130	132
Deaths from—					
Small-pox,	...	...	...	...	...
Measles,	...	1	...	3	...
Scarlet fever,	4	3	1	3	...
Diphtheria,	7	7	3	3	5
Whooping-cough,	26	30	38	34	20
Enteric fever,	...	1	1	2	...
Cerebro-spinal fever,	2	1	...	1	...
Diarrhœa (under 2 years of age),	4	11	2	4	6
Bronchitis, pneumonia, and pleurisy,	85	107	134	124	91
Cases reported—*					
Small-pox,	...	...	...	...	...
Cerebro-spinal meningitis,	2	4	2	1	...
Diphtheria and membranous croup,	49	36	39	43	25
Erysipelas,	27	26	32	24	34
Scarlet fever,	56	78	58	51	67
Typhus fever,	...	...	...	...	...
Enteric fever,	5	6	10	3	9
Phthisis,	55	73	79	64	61
Puerperal fever,	5	2	2	3	5
Measles,†	250	182	187	158	235

* Measles not notifiable.

Sanitary Chambers,
Glasgow, 22*nd February*, 1913.

THE

GLASGOW MEDICAL JOURNAL.

No. IV. April, 1913.

ORIGINAL ARTICLES.

SCLERODERMIA WITH SUBCUTANEOUS CALCAREOUS DEPOSITS.[1]

By WALTER K. HUNTER, M.D., D.Sc.,
Muirhead Professor of Medicine, Glasgow University;
Physician, Glasgow Royal Infirmary.

The case of sclerodermia which I bring to your notice presents several features of interest, but the one to which I wish specially to direct attention is the presence of calcareous deposits in the subcutaneous tissues. This apparently is a rare complication of sclerodermia, or else it has hitherto passed almost unnoticed. I have been able to find in English medical literature the records of only two other cases[2] with such deposits, and the condition seems to be almost as uncommon abroad, for Thibierge and Weissenbach,[3] who, in

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[1] A communication made to the Medico-Chirurgical Society of Glasgow, 4th October, 1912.

[2] (1) Scholefield & Parkes Weber, *British Journal of Dermatology*, 1911, vol. xxiii, p. 276; (2) Haldin Davis, *Proc. Royal Society of Medicine* (Dermatology Section), April, 1911, p. 99.

[3] "Concrétions calcaires sus-cutanées et sclérodermie," *Annales de Dermatologie et de Syphilographie*, March, 1911.

1911, described a case (discussing its pathogenesis in great detail), could find mention of only eight other cases in Continental literature.

Within the past few days, however, I have had the opportunity of seeing a second patient with very abundant calcareous deposits in the fingers. In this case there was no appearance of sclerodermia of the fingers, but there was a history of Raynaud's phenomena affecting the hands for many years; and judging from the records above referred to, Raynaud's disease seems to be as important a factor as sclerodermia in determining the deposit of these calcareous concretions. The association of sclerodermia and Raynaud's disease, however, must be somewhat intimate. Cases of sclerodermia not infrequently suffer from Raynaud's phenomena, and cases of Raynaud's disease may ultimately show signs of sclerodermia. Sclerodermia is apparently a chronic interstitial inflammation of the skin, and it is probably dependent on a chronic local arteritis. There is increase of the connective tissue elements of the skin, affecting all parts of the cutis and producing atrophy of the various epidermal structures. But the recurring spasmodic contraction of arteries in Raynaud's disease may quite well induce a similar thickening in these vessels, with somewhat similar sclerotic changes in the skin as in sclerodermia. It is also recognised that with the repeated attacks of local asphyxia the fingers in Raynaud's disease may become coarse and thickened, due, doubtless, to thickening of the skin and possibly of the subcutaneous tissues. The process may thus be either hypertrophic or atrophic, and possibly first one and then the other. And the most obvious explanation of the calcareous deposits in the cases of sclerodermia and Raynaud's disease would seem to be that they are secondary to the fibrotic changes in the skin, and thus analogous to the calcareous deposits in the sclerosed valves of chronic endocarditis or the cicatrices of old tuberculous lesions in the lungs. The calcification would therefore be a terminal phase of the fibrosis, an alteration in the vitality of the sclerosed tissue determining the deposit of the lime salts.

This is the view favoured by Thibierge and Weissenbach[1] who have made a detailed histological examination of various portions of sclerosed skin excised from their patient during life. In the sections, whether taken from skin with or without the deposits, the same sort of appearances were to be met with. The epidermis was thin and there was relative thickening of the horny layer. The fibrous layer of the dermis was thickened and the subcutaneous cellular tissue replaced by dense connective tissue, denser even in the deeper than in the superficial parts. The elastic tissue was very abundant in the superficial layers, as well as in the deeper layer of new formed fibrous tissue. It was in the midst of the dense connective tissue that the calcareous masses were to be found. As a rule the largest were situated in the middle and deeper parts, but some were at the level of the epidermis, which was thinnest over the deposits, suggesting that the mechanism of expulsion of the deposit was by ulceration of the epidermis covering it.

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[1] *Loc. cit.*

The calcareous mass was seen to consist of an amorphous structureless-looking material. At its margins the connective tissue formed little spaces, limited by thick fibres of homogenous appearance, which stained irregularly and sometimes did not stain at all. These spaces were occupied by a substance similar in structure and staining reaction to the larger concretions, and this represented apparently minute and recently deposited concretions. Occasionally there were some multinuclear giant cells at the margins of the deposits. In sections taken from certain other portions of the skin the calcification was just commencing and could not have been recognised clinically. In such sections there could be seen, in the midst of dense adult connective tissue fibres, little isolated granules united into masses of variable size. But the granules were not distributed haphazard in the connective tissue, but were precipitated in a special hyaline-like substance lying between the connective tissue fibres. This substance was distributed between the fibroblasts in the form of irregular tracts, and was thought to be derived from degeneration of certain of the connective tissue fibres themselves. Its staining reaction was similar to that of colloid material. The elastic fibres apparently played no part in the calcifying process.

In this early stage of calcification there was no appearance of any recent inflammatory reaction either in the form of round cells or giant cells. There was therefore nothing to suggest that the process was that of a calcifying granuloma as had been suggested by some writers. In its later stages the calcareous mass, being a foreign body, seemed to provoke a slight reaction, as shown by the few giant cells that sometimes clustered round about it. Sometimes calcification would ultimately invade the giant cells, but they and their calcification were always secondary phenomena, secondary to the deposits in the colloid-like substances above referred to. Bacteriological examination of the skin in this case gave negative results, there being no growth on the culture media, and no result from injecting guinea-pigs.

According to the observations, therefore, of Thibierge and Weissenbach, these concretions which appear in certain cases of sclerodermia and Raynaud's disease are secondary to the formation of a more or less dense connective tissue, parts of which undergo a colloid-like degeneration, and so favour the deposit of lime salts. It is the confluence of such deposits that constitute the calcareous masses under discussion.

The patient I have now to show you has suffered both from Raynaud's disease and from sclerodermia. She has had the calcareous deposits for many years. She is a woman, aged 38 years, and was under observation in Ward 9 of the Glasgow Royal Infirmary for a period of three months, namely, from 18th June to 14th September, 1911.

Her complaint on admission was of pain and limitation of movement in the hands, arms, and back, and dryness and tightness of the skin, all of many years' duration. The disease seems to have commenced with the appearance of Raynaud's phenomena in the hands and feet when the patient was 14 years of age. When exposed to cold the fingers and toes would become white and numb, and later deep blue or black in colour. Sometimes after strong excitement, too, the hands up to the wrists would become black in this way, and at such times there was often also a large patch of red colouration over the lower part of the neck and upper part of the chest.

When about 18 years of age the patient began to suffer from pains, swelling, and redness in the joints, beginning with the small joints of the hands and feet, and spreading to the wrists, elbows, ankles, and knees. The shoulder- and hip-joints were never involved, and the pains did not flit from joint to joint as in rheumatism. These attacks of pain very rarely came on during the night, and they had never been so severe as to confine the patient to bed.

Since 25 years of age the articular trouble had been much less in evidence, though there was still considerable limitation of movement in certain of the joints.

Shortly after the first attack of pain in the joints the skin of the hands became dry and harsh, and seemed to get tightly stretched over the underlying structures. This condition of the skin gradually extended up the arms to the elbows and over the inner aspects of the upper arms. The feet were never affected in this way; but the skin over the knees became reddened and dry, and this change ultimately spread downwards to involve the skin over the front of the ankle-joints, and upwards to the skin over the outer aspects of the thighs.

The patient's friends had noticed a change in the skin of the face, especially round the mouth, but the patient herself did not think much of this as it did not cause her any inconvenience. She possesses, however, a series of photographs of herself, taken when 15, 18, 25, and 30 years of age respectively, and in all of these, except the first, the sclerodermia in the face is very marked, and, indeed, they present much the same appearances as the patient did on admission to hospital. In the first photograph, taken when 15, the skin of the face was apparently quite healthy. There is no history of there having been a pseudo-œdema of the skin preceding the development of any patch of sclerosis.

When 21 years old little nodules appeared in the neighbourhood of the affected joints. The skin over these would ulcerate, and calcareous-like particles become exposed and would sometimes drop out. Sometimes suppuration occurred round the concretion, and sometimes, too, the pus formed previous to the breaking of the skin. Similar nodules developed in the cartilages of the ears.

The hands, the patient says, sweat very little, even when warm; and she says they do not seem to have grown properly since she was 14 years old. Whenever the hands get cold local syncope at once appears, to be followed by local asphyxia. Sensation had always been unaffected, and there had never been hæmoglobinuria. A year before admission to hospital patient had some illness which she thought was pyelitis, and during this illness she thinks some of the areas of sclerodermia lessened in size. Except for the above, and scarlet fever when 7 years old, she has had no other illness that she could recollect.

Family history.—Her father was a healthy man, and died of an accident when 74 years. Her mother died of diabetes. There were ten of a family, of whom six, in addition to the patient, are alive, and enjoy good health. The remaining three died in childhood—one from scarlet fever, one "after vaccination," and one of some unknown cause. Patient is of Scottish parentage, and there is no history of any of her relations having suffered from Raynaud's disease, sclerodermia, rheumatism, or gout.

On admission to hospital she was seen to be a fairly well-developed and fairly well-nourished woman. There was no appearance of anæmia. She was, however, nervous and easily excited, and over the upper part of the front of the chest there was a large patch of reddened skin, and, according to the patient, the redness had suddenly appeared, due to the excitement of being examined.

The face had a somewhat emaciated appearance. The features were small, and the nose had a pinched look. The mouth also was small, and the lips thin and tightly drawn across the teeth. The lips, too, could not be pursed up as, for instance, in whistling, and when an attempt was made to do this, vertical furrows appeared, especially in the upper lip. The mouth could not be opened to the full extent, but there was no apparent difficulty in masticating food or in swallowing. The tongue seemed small, and its right half seemed rather smaller than the left. Movement, too, towards the right did not seem so free as to the left.

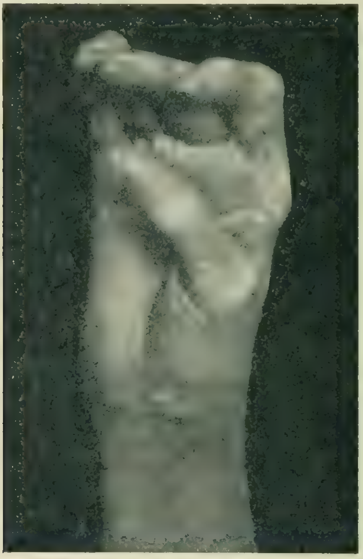

FIG. 1.

Photograph of right hand showing white deposits in the skin.

The skin all over the face and neck was smooth and glossy, and seemed tightly stretched on the underlying structures. Over the front of the chest and the abdomen it was apparently normal; but over the greater part of the back and over the gluteal regions the skin had the characters seen in the face and neck. The skin of the whole of both hands and arms—excepting, possibly, a narrow strip on the flexor surface of the arms—was also involved in the sclerodermia, and at the tips of both elbows the skin was adherent to the underlying bone. The skin over the lower limbs had to a large extent escaped, excepting, however, a patch of commencing sclerosis over both knees, and extending downwards a short distance over the front of the tibiæ, where the skin was rather scaly.

There was very considerable atrophy of the muscles of both upper limbs, especially those of the upper arms and shoulder girdles. But the most striking feature of the case was the sclerodactyly of the fingers. The hands were small and atrophied, and had more the appearance of the hands of a child than of an adult. The fingers were tapering, and held semiflexed (Fig. 1). At various situations, and especially round the joints, there were little nodular excrescences, or else small ulcerated surfaces where the nodules had been. The skin over many of the nodules appeared white in colour, as indicated in Fig. 1. In the left hand, situated in the soft tissues on the flexor aspect of the thumb, just opposite its metacarpo-phalangeal joint, there was a little fluctuant protuberance about the size of a small marble. The skin over this was also white, giving it the appearance of a small abscess cavity. Its situation is indicated by the dark shadow in Fig. 3, and it probably contained calcareous particles in a more or less fluid medium.

In the *x*-ray photographs (Figs. 2 and 3) one can also see the disposition of the calcareous deposits in the fingers, and it will be seen that these are specially abundant in the thumb and index finger of the right hand, and in the thumb of the left. The concretions, I may say, have no connection with the bones of the fingers, these bones being quite regular in outline without exostosis of any sort. The ends of the metacarpals and phalanges are possibly less dense than normal, and in that respect resemble the corresponding bones in certain cases of rheumatoid arthritis. The patient had made a collection of the concretions that had been from time to time extruded from the fingers, and it was seen that the average size of each was about that of a millet seed. On chemical examination it was found that they consisted of carbonate and phosphate of calcium and magnesium, and that they failed to show the presence of uric acid.

There was very considerable limitation of movement at the finger-joints. The movements, too, at the wrists were likewise impaired, there being no lateral movement, and flexion and extension being very limited; the skiagrams suggest a possible synarthrosis between some of the bones forming the wrist-joint. The elbows could not be fully extended, and there was some limitation of movement, both active and passive, in the shoulder-joints, for the patient could not put either hand on her head unless when lying down. The limitation of movement at the various joints was doubtless primarily due to the sclerodermia; but there was also tendon-shortening, with possibly some changes in the capsule of the joint, and it seemed to be this that was the main cause of the limited movement. There was no definite evidence of any considerable thickening of the palmar fascia.

The lower limbs were well developed, being in this respect in marked contrast to the arms. But round the metatarso-phalangeal joints of the great toes there had been similar nodules to those in the fingers, and scars were to be seen where the concretions had been extruded. Skiagrams of the lower limbs failed, however, to show any deposits in the toes, knees, or elsewhere. The same applied to the skiagrams of the upper limbs (excepting the hands), even although calcareous particles had formerly been extruded from the left elbow. The only other situation where concretions were found was at the outer and inferior aspects of each external auditory meatus.

The movements of the lower limbs were good, excepting at the hip-joints. The patient could walk fairly smartly, but she had great difficulty in going upstairs, or in rising from a chair, or in sitting up in bed with the knees extended. This was probably due to the tightness of the skin over the gluteal regions, for the gluteal muscles seemed well developed, and presented no appearance of atrophy.

There was an increase of pigment in the skin all over the body, and this was noticeable in the areas affected with sclerodermia as well as in the normal skin. There was no definite anæsthesia in the hands or elsewhere. The biceps, triceps, and knee-jerks were all absent, but the ankle-jerk and plantar reflex were normal. The abdominal and epigastric reflexes were also present.

The heart and lungs were healthy. There was a degree

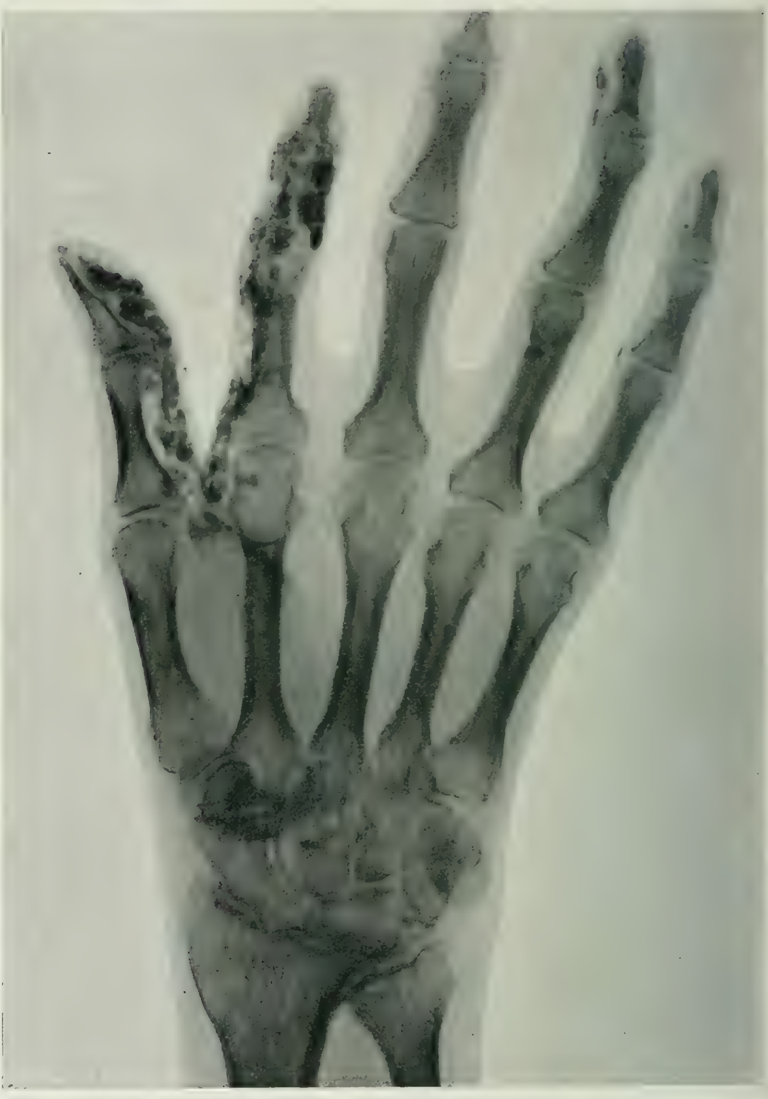

Fig. 2.

Skiagram of right hand showing opaque deposits in fingers and thumb.

To illustrate Professor Hunter's communication.

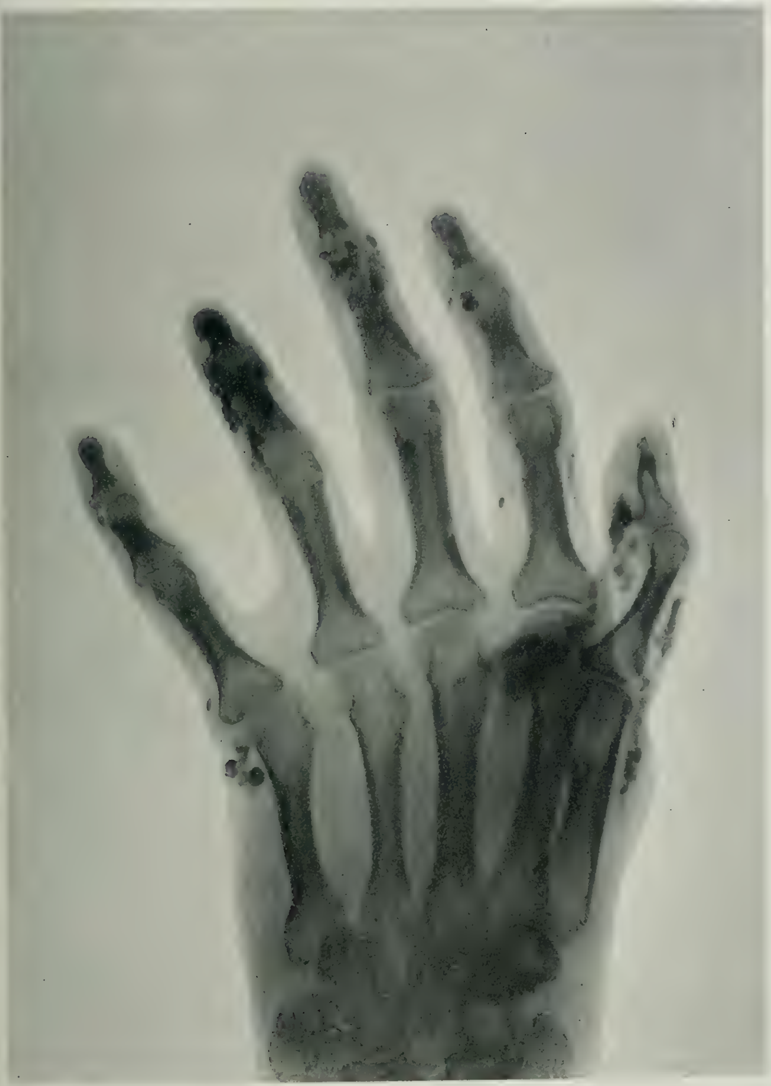

Fig. 3.

Skiagram of left hand showing similar deposits to those of right hand.

To illustrate Professor Hunter's communication.

of cystitis, but the kidneys seemed free from disease. The Wassermann reaction was negative.

The treatment consisted chiefly of inunction of the skin with oil, and subcutaneous injections of fibrolysin. This was continued for over two months, and, I think, with considerable benefit to the patient. The skin over the sclerosed areas seemed to become looser and softer, and the extent of movement, especially at the shoulder- and hip-joints, seemed distinctly increased. The patient could now feed herself, using both hands, which formerly she could not do. She could pick up a pin with the right, but not with the left. Her general condition, too, was much improved.

That, then, is the clinical history of this case, and it seems to be fairly typical of the other cases recorded. It is seldom that the appearance of the concretions is the first manifestation of the disease, although it may be their presence that makes the patient first seek advice. They are usually preceded by some circulatory disturbance, such as local syncope or local asphyxia, and often by sclerodermia. They most often appear first in the fingers and toes, and are usually most abundant in the fingers. They may then spread very gradually to the forearms and shoulders, to the calf and knees, affecting chiefly the extensor surfaces and the areas round the joints. *X*-rays may show concretions that would be otherwise missed. They show them to be made up of aggregations of opaque granules situated in the skin or subcutaneous tissue, and sometimes even in muscle. They vary in size from that of a pin head to a hazelnut, and are of hard consistence. They are usually adherent to the skin, but movable in the deeper structures. If they are lying near to the surface the skin over them may be much attenuated, the white and yellow of the concretion showing through the skin.

The formation of the deposits is usually insidious, but sometimes it is associated with local swelling and redness. It is doubtful if they are ever re-absorbed; they tend rather to increase in size and number. The deeper concretions may remain encapsuled in their surrounding connective tissue; those more superficial are usually spontaneously extruded. This may be brought about by the gradual attenuation of the overlying skin, so that the concretion ultimately becomes exposed, and thus readily drops out; or it may be extruded as fine granules, sometimes suspended in a fluid medium, or as a larger and more consistent mass. Sometimes suppuration occurs round the deposit, so that it escapes when the pus is evacuated. In either case an ulcer has formed, and it is ultimately replaced by cicatricial tissue.

In concluding, I wish to express my indebtedness to Dr. J. R. Riddell for the excellent skiagrams he has made of this case, and to Dr. Burton for the photograph of the hand shown in Fig. 1.

MYOPIA: A REVIEW OF FIVE HUNDRED CASES, WITH SPECIAL REFERENCE TO ETIOLOGY.[1]

By JAMES ALEXANDER WILSON, M.D.,
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THE axis of the eyeball, 17 mm. long at birth, increases during infancy and adolescence to 24 mm., while the effect of this is at the same time partly counterbalanced by diminution in the curvature of the crystalline lens. Professor Sattler,[2] of Leipsig, says—"The degree of hypermetropia found at birth by different investigators varied between 1 D and 8 D, and was most frequently 2 D to 3 D. Between the sixth and twelfth years of life about three-quarters of all eyes have reached emmetropic refraction, or nearly so." On the other hand, Parsons[3] says that after the first two decades there is of myopia "10 to 15 per cent, as compared with 30 per cent for emmetropia and 50 to 55 per cent for hypermetropia." If the latter statement is correct, then the longsight of our savage forefathers is still predominant.

In ordinary medical inspection of school children, when a fairly high standard of visual acuity is employed to differentiate the non-defectives, then about 70 per cent are usually so classed: but this rough method by no means reveals the actual state of affairs, though it is accepted as sufficient for ordinary efficiency.

The eyeball enlarges at an uneven rate, with no emmetropic halting place, and the ultimate results are varied. The diminution of hypermetropia, the formation and progress of myopia, are one and the same process. Myopia springs from hypermetropia, and this occurs normally before and during school years. The normal drift is towards enlargement of the eyeball; but there are influences at work which may hinder or unduly accelerate and exaggerate the process, and these are said to be heredity, mechanical influences, disease, &c.

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[1] A communication made to the Medico-Chirurgical Society of Glasgow on 17th January, 1913.

[2] Sattler, *Transactions of the Ophthalmological Society*, 1907, p. 2.

[3] Parsons, *Diseases of the Eye*, p. 510.

The following table shows the diminution of hypermetropia, as such, in various age groups:—

Age Groups.	8 and under.	9-12.	13-15.	16-20.	21-30.	31-40.	Over 40.	Years.
Number of cases, .	221	315	137	57	74	43	26	873
Average amount of hypermetropia, .	3·7	3·2	3·0	2·8	2·2	2·1	2·3	Dioptres.

The following are individual cases showing the diminution of hypermetropia and the progress of myopia:—

A. J., in 1904, then 6 years of age, had 7 D of hypermetropia, and was ordered + 6 D spheres. In 1910 he had only 3·5 D.

C. W., in 1907, then 7 years of age, had 6 D of hypermetropia, and in 1911 it had fallen to 3 D.

J. B., in 1908, then 9 years of age, had simple hypermetropic astigmatism, or, by retinoscopy, + 1 D in the vertical meridian and + 5 D in the horizontal. In 1911 the vertical meridian had − 1 D and the horizontal + 3 D.

L. W., in 1909, then 10 years of age, had 2·5 D of myopia, and in 1911 he had 4·5 D of myopia.

R. G., in 1910, then 8 years of age, had − 7 D in the vertical and − 3 D in the horizontal meridian, and in 1912 she had − 10 D in the vertical and − 4 D in the horizontal meridian.

Last year I read a paper on "Keratitis as a Cause of Myopia,"[1] and since then I have made observations and enquiries on 500 cases of myopia in order to ascertain what percentage of myopia is produced in this manner, and I have also endeavoured to ascertain what percentage may be due to heredity. Mechanical influences as causes of myopia are disputed, and their significance remains obscure. The bulk of these cases are ordinary hospital patients, *i.e.*, working people, or people of lower middle rank.

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[1] Wilson, *Glasgow Medical Journal*, April, 1912, and *The Ophthalmoscope*, July, 1912.

The cases are divided into three sections—(1) those with corneal opacities; (2) those that may be considered hereditary; and (3) those without opacities and without evidence of heredity. The following table gives the results as a whole:—

Age Groups.	8 and under.	9-12.	13-15.	16-20.	21-30.	31-40.	Over 40.	Years.
Number of cases,	38	84	64	78	92	73	71	500
Females,	21	46	38	50	71	56	56	338
Males,	17	38	26	28	21	17	15	162
Average amount of myopia,	4·3	3·5	4·1	4·6	5·6	6·2	6·7	Dioptres.

It will be observed that there are only 38 cases in the first age group, and that the average amount of myopia is high. Hirschberg,[1] of Berlin, says—"It is remarkable that during the first ten years of life 33 cases of high myopia were registered" in 560 cases.

The following table shows the cases arranged according to the amount of myopia:—

Low myopia, *i.e.*, up to 3 D.	Females, 136;	males, 78	= 214
Medium myopia, *i.e.*, 4 to 6 D.	Females, 85;	males, 36	= 121
High myopia, *i.e.*, 7 to 12 D.	Females, 72;	males, 37	= 109
Very high myopia, *i.e.*, over 12 D.	Females, 45;	males, 11	= 56

1. Keratitis is classed as the cause of the myopia in 16·0 per cent.
2. There is evidence of heredity in . . . . 54·8 „
3. Cases without evidence of heredity and without corneal opacities, ... 29·2 „

There are also 17 cases with corneal opacities in the hereditary section. Thus, in 500 consecutive cases of myopia 97 had corneal opacities:—

Occupations—

School children,	191
Clerks, typists, machinists, and such like,	51
Housewives and domestic servants,	153
Shop and factory workers, tradesmen, &c.,	78
Labourers,	8
Unknown,	18

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[1] Hirschberg, *The Treatment of Shortsight*, p. 13.

Educational requirements force school children into prominence; but, scholars aside, then the number of near workers —such as clerks, typists, machinists, weavers, milliners, and teachers—is not great, whereas housewives and domestic servants are numerous.

1. *Cases with corneal opacities.*

In searching for opacities it is necessary in many cases to use the loupe and oblique illumination.

Age Groups.	8 and under.	9-12	13-15.	16-20.	21-30.	31-40.	Over 40.	Years.
Number of cases, .	7	11	14	6	15	14	13	80
Average amount of myopia, . . .	1·7	2·6	3·3	6	5·6	4·5	7·1	Dioptres.

The ages in these cases vary from 3½ to 60 years, and the myopia from 1 to 20 D. It will be observed that the myopia increases more or less steadily with age. Pyle,[1] of Philadelphia, writing on this variety, says: "The myopia is more likely to become progressive than the ordinary" myopia. In 23 cases there are opacities on one eye only, and the eyes with the opacities have a total of 104 D of myopia and the eyes without the opacities have a total of 44 D, but in 2 cases there is high myopia in both eyes. The conditions at the fundi are such as are usually found in myopia—depressed discs, crescents, irregularly granular or atropic areas, and in 4 cases there is choroiditis. Three cases have anterior capsular cataracts, and in 1 of these no opacity in the cornea was discovered. The curvature of the cornea is increased in 23 cases, in a few it is lessened, in some it is irregular, and in others it is normal.

2. *Hereditary myopia.*

I have made careful enquiries about myopia in other members of the families. Young people are usually brought by a parent, and the latter I have always examined, and often I have found myopia where it was not known or acknowledged. I have seen many cases of low myopia among these working class parents. Frequently I have examined brothers and sisters of myopes. People are often quite ready to tell us, and with a measure of pride and also as evidence that there is no shortsight in the family, of a parent or grandparent who could read or thread a needle at 60 without glasses.

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[1] Pyle, *The Ophthalmoscope*, October, 1908, p. 835.

Age Groups.	8 and under.	9-12.	13-15.	16-20.	21-30.	31-40.	Over 40.	Years.
Number of cases, .	25	48	35	49	47	40	30	274
Average amount of myopia, . . .	5	3·8	4·2	4·1	5·1	6·4	5·7	Dioptres.

The following were found :—

Grandparents myopic, ...	13
Fathers myopic, ...	79
Mothers myopic, ...	111
Brothers or sisters myopic, ...	63
Uncles or aunts myopic, ...	6

23 males have fathers who are myopic.
46 females have fathers who are myopic.
33 males have mothers who are myopic.
74 females have mothers who are myopic.

In some cases the amount of myopia in the transmitting parent is known, and the amounts transmitted are :—

Father to son—less in 2 cases, the same in 1 case.
Father to daughter—less in 2 cases, greater in 3.
Mother to son—less in 2 cases, greater in 5.
Mother to daughter—less in 7 cases, greater in 2.

Some writers say there are two different kinds of myopia —a low, or benign form, and a high, or malignant form—and that these never pass the one into the other. In some of the above cases the transmitting parent has one, so-called, variety and the offspring the other.

These facts do not suggest difference in type or kind, but only difference in degree.

The complications in this section are :—4 have nystagmus, 2 cataract, 1 divergent squint, 1 convergent squint; 2 parents have cataract.

3. *Cases without evidence of heredity and without corneal opacities.*

This section is the least satisfactory, but if we knew more about the causation of the cases included in it, or if we could place them elsewhere, then probably the whole problem of the etiology of myopia would be less obscure. Many cases are placed in this section because there is no definite evidence of heredity, but I believe many of them are really cases of hereditary myopia. Fifteen cases have records of long-continued inflammation of the eyes, occurring after measles, though these cases do not present corneal opacities to ordinary inspection with the loupe. When opacities are present the light thrown on the cornea from the retinoscopic mirror is seen in irregular patches, but occasionally a somewhat finer, broken, or irregular appearance is observed, suggestive of opacities, but on examination nothing of this nature is observed. This lesser condition is probably the result of bygone attacks of keratitis that have not left any obvious markings.

Age Groups.	8 and under.	9-12.	13-15.	16-20.	21-30.	31-40.	Over 40.	Years.
Number of cases, .	6	25	16	23	30	18	28	146
Average amount of myopia, . . .	5	3·6	4·8	3·9	4·5	6·7	8	Dioptres.

Nine cases have cataract of different kinds, and 16 have choroiditis. Two attribute their shortsight to childbirth, 2 to enteric fever, 3 to scarlet fever, and 1 to chloroform. One has epicanthus and deformity of the eyelids, and 1, when a child, had an eye removed on account of a growth. Mothers of 2 of these patients have optic atrophy, and 2 others have cataract. Thus a fair number of these cases have suggestive complications and associations. Two-thirds of them live in the city and the remainder in the country.

Occupations.— Housewives or domestic servants, 50; scholars, 47; clerks, 17; labourers, 13; tradesmen, 7. Out of the 146 cases, 70, apart from the near work of school years, were not required to use their eyes for much near work.

Monocular myopia.

There are 65 cases of monocular myopia, and of these, 32 have the right eye affected and 33 the left. The other eyes are emmetropic, hypermetropic, or present very small amounts of myopia.

Ages.—Thirteen are from 8 to 12 years, 17 from 13 to

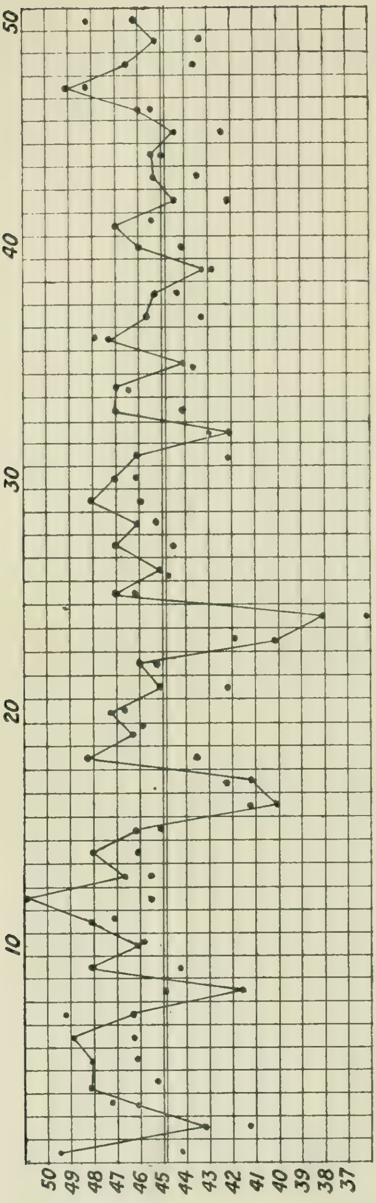
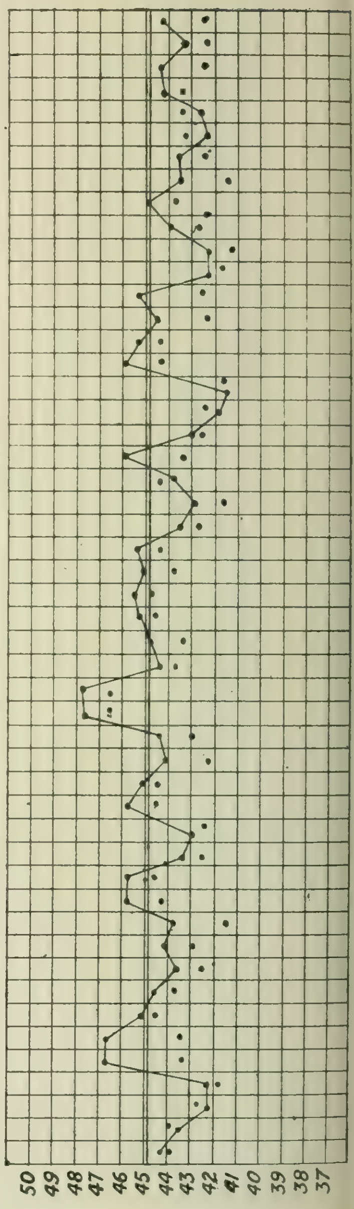


CHART I.—A record of the corneal curvature in myopia with corneal opacities.



20 years, 14 from 21 to 30, 14 from 31 to 40, and 7 are over 40.

The myopia ranges from 1 to 16 D, and the average amount is 5 D—that is, monocular myopia is usually high. In 5 cases there is choroiditis, and 1 is a very marked case of extensive choroiditis, affecting only the eye that is myopic. The other cases present crescents, small atrophic areas near the disc, or are normal. The corneal curvatures in these cases, except in those with opacities, are practically the same in both eyes.

Corneal opacities are present in . . .	24 cases.
There is evidence of heredity in . . .	16 ,,
There are anterior capsular cataracts in .	3 ,,

The accompanying charts are records of corneal curvature:—

The curvatures are expressed in dioptres, as indicated on the arc of the ophthalmometer. The continuous line represents the vertical meridian, and the dots the horizontal meridian. The first chart is that of myopia associated with corneal opacities, and the second is that of high myopia. In emmetropia the curvature chart shows variations that lie between these. The numbers at the side are dioptres. The average in young emmetropes is—vertical meridian, 45; horizontal, 43·6. In young myopes it is—vertical, 45·5; horizontal, 43·9. I think the curvature lessens slightly as we get older.

Flattening of the cornea is a feature of high myopia. In these cases the circular fibres of the ciliary muscle are absent or atrophied, and this seems a probable explanation of the condition.

Lens changes.

There are 34 cases with lenticular conditions, and of these, 6 are ordinary senile cataracts. The remainder present radial spokes—mostly confined to the periphery—or punctate opacities, arranged also at the periphery or scattered irregularly. The ages of some of these patients are as follows:—14, 16, 18, 19, 22, 23, 25, 26, 33, 39, 40, 42; while the myopia ranges from 1 to 14 D. Many of these lens changes are best seen with the loupe, oblique illumination, and with the pupil dilated. One of these cases presents peculiar markings round the lens. Broad chalk-like bands cross the surface, and other narrower ones form loops, converging at, but stopping short of, the axis. The intervening lens material is perfectly transparent, and the bands can be seen, after curving round the periphery, extending over the posterior surface. These markings suggest those seen on glass marbles. Several cases have small oily-looking areas or drops, and one of these is very characteristic.

The patient is a woman of 33 years, with 8 D of myopia. The lens has peripheral spokes of some breadth, and here and there the drop-like areas. These areas are almost invisible to direct inspection, but are easily seen with the loupe and oblique illumination. They are present in both lenses.

Hirschberg[1] says—"Already in the thirtieth and fortieth year the eyes of the myope—but not the emmetrope or hypermetrope—frequently show bubbles or drops just behind the anterior lens capsule either isolated or in groups."

Lens changes are not only very common in myopia, but they are found in quite young people, and where the myopia is small in amount.

The optic disc.

The disc in myopia is quite a study in itself. It is usually depressed and pale, and the dragging of the retina and choroid over the nasal side gives it a tilted aspect. On the temporal side it seems extended by the crescent formation, and as a whole it is scoop-like. The contrast between the disc in myopia and the disc in hypermetropia is great.

The depression of the disc in myopia may suggest increased intra-ocular pressure, but whatever causes the fundus to yield is not likely to overlook the feeble lamina cribrosa. The amount of change in and near the disc varies and is not always in harmony with age and the degree of myopia, but all this may be but evidence of the distance the eye has travelled in its evolution.

It is now usually acknowledged that accommodation has nothing to do with the production of myopia. In myopia the accommodation is largely in abeyance, unless full correction has been worn, whereas in hypermetropia it is usually strong. It also seems reasonable to think that a healthy and active ciliary muscle should be associated with a better intra-ocular circulation, and that under these circumstances the contents of the eyeball would be better nourished than otherwise.

Sattler[2] states: "The position and motions of the eyes as they take place during reading and writing require a continual and varying contraction of all the ocular muscles, with the only exception of the superior rectus, and the eyeball is

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[1] Hirschberg, *The Treatment of Shortsight*, p. 25.

[2] Sattler, *Transactions of the Ophthalmological Society*, 1907, p. 8.

continually under a certain amount of pressure from all sides and the summation of the single effects may produce some yielding of the wall of the eyeball." He thus supports the theory that the muscular activity associated with the converging and lowering of the visual lines, and especially the lateral movements employed in reading and writing, inflicts pressure on the eyeballs and increases the intra-ocular pressure—a quantity which varies normally with the general blood-pressure and indirectly with physical exertion or sedentary habits—and so effects stretching of the posterior segment of the globe.

Levinsohn,[1] on the other hand, states: "It has also been shown that no action of the external muscles has the slightest influence upon intra-ocular tension."

Sattler recognises and endeavours to combat certain conditions that seem unfavourable to the muscular compression theory; thus the progress of myopia in a diverging eye, he thinks, may be accounted for in these cases by lateral movement and depression alone. If the purely converging quantity is withdrawn then the distinguishing feature of near work is abandoned.

Again, in ordinary convergent squint the converging eye does not become myopic, and he seeks escape from this difficulty by asking, "Why do not all eyes become myopic under the same strain?" Sattler thinks heredity determines the result. The prevalence of convergent squint provides abundant opportunity for the converging and depressing muscles to demonstrate their pernicious influence, if such they have. If the physical conditions of near work have anything to do with the production or aggravation of myopia, then monocular myopia is a monocular result from binocular conditions.

The angle that the eyes move through when they pass from the primary position, *i.e.*, looking straight ahead, to a point 13 inches away is but a small one. Many writers think it doubtful if near work is a cause of myopia, though most think it has an aggravating effect.

There are certain things about myopia that are generally admitted: it is sometimes present before school work begins, and it is found in severe forms among labourers, farm servants, and even illiterates. The youngest patient on my list is a child of 15 months. One of my cases is an illiterate, and several of the transmitting parents, or grandparents, were illiterates. These facts warrant the statement that myopia does develop in some cases apart from the convergence and depression of close work. It is sometimes said that low myopia is a type by itself and is produced by close work. There are on my list 151 cases of young people, of 20 years and under, with 4 D or less of myopia, and these are classed as follows:—

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[1] Levinsohn, *British Medical Journal*, 9th November, 1912, p. 1312.

Hereditary myopia,	88	76 per cent.
Cases with corneal opacities,	28	
Cases without evidence of heredity and without opacities,	35	

Levinsohn[1] states: "The (German) schools have been well lighted and ventilated, proper desks have been fitted, in fact nothing that medical science could suggest has been left undone. With what result? Frankly, with practically none."

Hirschberg is of the same opinion; but even if this statement is admitted to be true, it does not disprove the assertion that convergence and depression of the visual lines during near work is a cause or an aggravation of myopia, for these conditions in some measure remain, but it goes a long way in this direction.

The intra-ocular pressure is such that the coats of the eyeball have to resist an outward thrust in all directions, and this pressure is 25 mm. Hg. above that of the atmospheric pressure.

Staphylomata, or local bulgings of the sclerotic, occur occasionally at the anterior part of the eyeball, and these are usually due to disease or trauma so weakening the resisting power of the coats that they yield to the intra-ocular pressure.

If muscular pressure is a cause of myopia, then it must operate by raising the pressure, and this increased pressure should affect the less resisting part. In buphthalmia there is increased pressure and the coats of the eyeball yield, especially the less resisting parts, the optic disc and the sclero-corneal junction, but in myopia the more resisting part yields and not the less. This implies change in the resisting power and a yielding before normal pressure, and contra-indicates increased pressure acting on normal coats.

It is remarkable that in my 500 cases there are 338 females and only 162 males. Hirschberg[2] states: "With the exception of the very high degrees of myopia the women far outclass

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[1] *Ibid.*

[2] Hirschberg, *The Treatment of Shortsight*, p. 13.

the men." In a footnote he says: "In my private consultations the men exceed the women," but when the numbers of his hospital and private patients are added together the women still "outclass the men." If women are more liable to yielding of the posterior segment of the eyeball it probably means their sclerotics are normally less resisting than those of men, and perhaps their habits of life contribute to this result. It is usually admitted that constitutional or general diseases are sometimes followed by myopia, as if the general enfeeblement extended to the sclerotics.

Myopic eyes are liable to cataract, and a liability to cataract is a liability to disease, and is evidence of something more than a tendency to changes at the fundus. The old dogma of Donders is probably true that "a nearsighted eye is not a sound eye," and when the condition is progressive, "it is a true disease."

Keratitis in some way affects the resisting power of the posterior segment of the eyeball. What is the pathological process? Inflammation of the anterior part of the eyeball is followed by yielding of the posterior part, with crescents, atrophy, &c. Pathologists say there is no evidence of inflammation at the fundus in myopia and the term sclerotico-choroiditis posterior is banned. In severe and prolonged inflammation of the anterior part of the eyeball it is improbable that the posterior part can escape. To see the fundus when keratitis is active is an impossibility, but in several cases when the severity of the attack had diminished I have seen the fundus and thought it was congested. Congestion, or partial stasis, means impaired nutrition, and probably softening and yielding of the unsupported part of the fundus.

If we get evidence of heredity in 54 per cent of hospital patients we may assume that the percentage is really larger, for in some cases no information is forthcoming on the one side or the other. Of all the etiological factors heredity is probably the most important. If hereditary myopia is an adaptation for near work acquired by habits and environment operating through many generations, then in many cases it is an adaptation that oversteps its purpose and ends in disaster. Conceptions of these possible ancestral influences should not bias our observations of to-day.

The near work of school years is an industry that is contemporaneous with the manifestations of heredity, and it is just possible that the respective responsibilities may be confused.

Myopia is essentially an enfeeblement notwithstanding the fact that there are many cases of low myopia that are resistant and stationary. It is more a woman's than a man's defect, for housewives and domestic servants predominate; a class that does little of the so-called pernicious near work. The sedentary, or domesticated individual, when reading, writing, or working, within a confined space, may be invoking other influences as injurious as the convergence and depression of the visual lines with the associated muscle compression.

Dogmatism on this subject at present is useful if it provokes discussion or stimulates investigation, but otherwise it is of little value. We shall only get at the truth through observations which have been verified and accepted as actual facts.

NOTES ON MEDICAL HISTORY.[1]

By GEORGE M'INTYRE, M.B., C.M., F.R.F.P.S.Glasg.,
President of the Glasgow Eastern Medical Society.

Gentlemen,—At the opening meeting of each season, in this Society, it is usual to interest ourselves with some subject which stands somewhat apart from the details of daily practice. At the present time when we all feel worried by legislative interference it may be a relief to cast our eyes backwards and trace the history of the profession in times even more trying than our own. Most of us find that we have so much to do to keep in touch with modern progress that we have little time to spare for the history of the past, and it seems to me that members of other professions are often equally ignorant of their great men.

The history of medicine is an enormous subject, and one of which it would hardly be possible to give a sketch in one evening, even if I had the knowledge necessary for the undertaking. I have tried merely to follow the line of what one may call apostolic succession in medicine, so that we may be able to place in historic position the names of the great leaders of the past.

As the history of medicine in Europe is the section which is of most interest to us, we may pass over what is known of medicine in other parts of the world, and come at once to medicine in Greece. Of course the name of Hippocrates, known as the "Father of Medicine," is familiar to every one, but it is well that we should remember that just as there were heroes before Agamemnon, so there were great physicians before Hippocrates. Of these, there is one whose name is worth bringing before your notice at the present time, viz., Democedes, who came from Croton.

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[1] Presidential address delivered to the Glasgow Eastern Medical Society, 2nd October, 1912.

Croton, a Greek colony in Italy, was where Pythagoras the philosopher lived (B.C. 580-510). He treated his followers when they were sick, and his disciples paid great attention to medicine. Herodotus says that the most famous physicians of his day were from Croton, and states that Democedes came from Croton to Egina about B.C. 520, and was made public medical officer at a salary of one talent per annum (£240), then was appointed to Athens at £406, and finally was invited to Samos by Polycrates, who paid him £480 a year. This must be considered a princely salary, when we remember that the salary of an Athenian ambassador in the days of Aristophanes was two drachmæ a day, or about one shilling and eightpence. This shows that there were well established and exceedingly well paid public medical services in the Greek cities in the sixth century before Christ. It would seem, indeed, that these were in existence much earlier, as Diodorus says that Charondas, the law-giver (B.C. 620) was greater than those who came before him, in as much as the mind is greater than the body, for he ordained free education in the cities for which he legislated, while they only provided a free medical service.

Hippocrates, we are told, was an Asklepiad of Cos. The Asklepiadæ claimed descent from Æsculapius, the "God of Medicine." They seem to have been a tribe or clan who practised medicine as a hereditary trade or profession, much as did the hereditary physicians in our Western Isles and in Ireland.

Æsculapius, whose name has come down to us as the "God of Medicine," is mentioned in Homer merely as a Thessalian chief who had learned from Chiron, the Centaur, the use of drugs, and taught his two sons, Podalirius and Machaon. Later on, about B.C. 770, we find him ranked as a God, and temples were erected to him. We are told "he gave Machaon power to draw out darts, make incisions, and heal wounds; but he placed in the heart of Podalirius all cunning to find out things invisible and cure that which healed not."

Theopompus (B.C. 350), tells us that the physicians of Cos and Cnidus were descended from Æsculapius through Podalirius, that they came from Syrnum in Caria and were called Asklepiadæ. There is a legend that Podalirius returning from Troy was wrecked on the coast of Caria and rescued by a goatherd, who took him to the palace. Here he found everyone in great concern about the king's daughter, who had fallen from the roof in a fit, and was still insensible. Podalirius restored her by bleeding from both arms, and received her hand and the Carian Chersonese as his fee. There he built two cities, naming the one after his wife and the other after the goatherd.

Although there were temples dedicated to Æsculapius to which the sick came for relief, it is not clear that the Asklepiads were priests of these temples, nor that the priests claimed to be physicians. The sick, on the other hand, did not resort to the temples to get medical treatment, but to be cured by miracle. Incubation was practised. The patient slept in the temple and dreamed, if he were favoured, that the God appeared and cured him, or gave instructions how to obtain relief. It was customary, on the part of those so cured, to hang upon the wall votive offerings representing the part diseased, and frequently a tablet was put up giving an account of the miracle. It has been said that Hippocrates himself may have got great help from these votive tablets, but probably they only taught him how clinical histories should *not* be written.

Hippocrates, the "Father of Medicine," was born about B.C. 460 and lived until B.C. 357. He lived, therefore, in the great days of Pericles, when Greece produced a larger number of great men within a century than any other country has produced before or since. Of these, Socrates lived B.C. 460-399, Plato B.C. 428-347, and Aristotle B.C. 384-322. The "Father of Medicine" is believed to have been the second of seven physicians named Hippocrates who lived about the same time, and this explains part of the difficulty in distinguishing the "genuine" Hippocratic writings.

The chief reasons for bestowing the title of "Father of Medicine" on Hippocrates are these: Firstly, he rejected the supernatural in medicine and declared that no one disease is more divine or more human than another, and that none arises without a natural cause. If physicians and others had only remembered this in the following ages the world would have been saved from much misery. Here Hippocrates gave voice to the spirit of his age. He lived in a time of transition, when the simple faith of older times was fading.

Herodotus, for instance, was a pious man, and considered the madness of Cleomenes an appropriate punishment for his crimes, but thinks it might be more directly due to excessive drinking. The plague, also, which fell on the retreating Persians was not credited, as it probably would have been by an earlier historian, to the vengeance of the insulted gods of Greece, but simply to the famine and hardships they had undergone.

The second great reason for his title is that Hippocrates established the doctrine that the art of healing depends not on theory but on observation. As Celsus said, Hippocrates separated medicine from philosophy.

In cultivating the art of detailed observation Hippocrates wrote his clinical histories. Although these writings must have influenced physicians in after ages, it was not until Sydenham's time that the taking of clinical histories was recognised as an important part of the training of a physician. Hippocrates paid great attention to prognosis also; but prognosis involves a knowledge of the natural history of the disease, and this can only be learned from a study of clinical histories.

We shall not go into the theory of disease held by Hippocrates. Hippocrates himself was never anxious to defend this theory, nor, indeed, any hypothesis, and thought that those who spend their time doing so only show their own volubility. The theory sounds strange to us, but it leads directly to the doctrine that the business of the physician is to help Nature, "for in doing so he shall take his proper place as the servant of Nature as our natures are the physicians of diseases."

The late Sir W. T. Gairdner, in *The Physician as Naturalist*, discusses the phrase *νούσων φύσιες ἰητροί*, and holds that it implies that normal function is in every instance to be evoked, supported, and protected, as that is usually the only way open to us for effectually overcoming abnormal function. The meaning, therefore, differs somewhat from that usually attached to the phrase "*vis medicatrix naturæ.*"

Some phrases from Hippocrates are now so completely incorporated with general literature and everyday speech that few of us remember the author. For instance, the first aphorism reads—"Life is short and the art long; the time is urgent, experiment dangerous, and decision difficult. The physician must not only be prepared to do what is right but also to make the patient, the attendants, and externals co-operate."

From the writings of Hippocrates we find that he was acquainted with the rub of pleurisy, as well as with the sound known to us as Hippocratic succussion sound, and even with that peculiar respiratory condition now known as Cheyne-Stokes breathing.

Another Asklepiad of the school of Cnidus is credited with showing by percussion how to distinguish dropsy or ascites from tympanites.

When Ptolemy I established the "Museum" of Alexandria about B.C. 300, he made that city the centre of Greek science, including medicine, a position it held for several centuries; so that even in the fourth century A.D. to have studied at Alexandria was sufficient recommendation for a physician in any part of the Roman Empire.

The greatest names belonging to this school are those of Herophilus and Erasistratus; and both were trained by Asklepiads—the first by Praxagoras of Cos, the second by Chrysippus of Cnidus. Both were therefore physicians as well as anatomists. Both are said to have traced the nerves to their origin in the brain and spinal cord, distinguishing the sensory and motor branches. Herophilus traced the sinuses of the dura mater to their meeting place, which he named the "torcular" or wine-press; while Erasistratus studied the anatomy of the heart. Both studied the pulse, and left the name pulsus dicrotus or caprizans, because it is supposed to resemble the way a goat gets up on its feet—a sudden lift of the hindquarters, followed by a smaller rise of the forequarters.

It is said that Herophilus made the first *post-mortem* examinations, and that Ptolemy himself was present at some of these. Like the rest of the Dogmatists, Herophilus maintained the humorol pathology. Erasistratus, however, founded a theory of his own—influenced, no doubt, by his tutor, who, having been partly trained by Egyptians, had imbibed their horror of blood-letting. Erasistratus' theory was based on the idea that the arteries contained air or "vital spirits," and he considered that the great cause of inflammation, fever, and disease in general was "plethora," which he defined as an overfulness of blood in the veins, thus forcing blood into the arteries. He therefore bandaged to close out the blood from the arteries by pressure.

To the Alexandrian school we are indebted for several surgical instruments following on the mechanical inventions of Archimedes, and we are told that the learned leisure of the occupants was occupied in inventing new methods of bandaging, and that some of our existing methods are survivals of these.

I have said that Herophilus held with the dogmatic school. Unfortunately, the followers and successors of Hippocrates did not remember the instructions of their teacher to observe facts and to keep medicine apart from philosophy, for they soon began to cultivate speculation and to theorise at large. Still, they based on physiology as they knew it, and not only studied the nature of disease but tried to discover the cause.

About B.C. 280 there arose in Alexandria an empiric school, the founders of which were two pupils of Herophilus. They looked on disease merely as a collection of unpleasant symptoms, and looked for remedies to cure these. They thus tended to reduce the art of medicine to a hunt for specifics. Nevertheless, as the empiric school arose as the result of a natural reaction against the extravagant theories of the Dogmatists, so it acted as a useful check on them. Later still the Methodists arose, holding a middle position between the two older schools and agreeing to some extent with both. They boldly classified diseases and treated them under a few general rules.

One might have expected that a warlike people like those of ancient Rome would have produced some great surgeons, but Rome seems to have been destined to teach the world law, but not science, and the only branch of medicine in which she excelled was State medicine. The profession was held in low esteem among the Romans, and throughout her history all the great physicians in Rome were Greeks. Of these, the first whose name has come down to us was Asklepiades. He seems to have been a man of low origin who had received some training in Alexandria, but, in spite of his name, was probably not an Asklepiad. He was blessed, however, with a good bedside manner, and became a very fashionable physician.

You will remember that in the class of therapeutics we were taught that drugs should be so combined as to take effect "cito, tuto et jucunde." In the writings of Celsus we find the statement—"Asklepiades officium esse medici dicit, ut tuto, ut celeriter ut jucunde curet."

Celsus, who lived at the end of the first century A.D., seems to have been a Roman, but probably not a physician by profession. He was a great writer, and noted for the elegance of his style. Medicine is only one of the subjects on which he employed his pen, as he wrote voluminously also on military science, agriculture, and rhetoric, and he could hardly have had a professional knowledge of them all.

The line of Greek medicine in Rome is carried on by Heliodorus, a surgeon who prevented hæmorrhage by the use of the ligature and by torsion, both probably learned from Alexandrians whose works are lost. These methods were forgotten in the dark ages, for Ambrose Paré, who re-introduced the ligature long afterwards, distinctly says that he learned it from no one.

Then came Archigenes, who amputated for many reasons besides gangrene. The earlier Greeks avoided this operation, partly from their horror of mutilation, a condition which they feared might be continued in a future state, and partly from fear of hæmorrhage. It is said that Archigenes introduced the flap operation, and used bandages to prevent hæmorrhage, thus becoming a sort of forerunner of bloodless surgery, although rubber bandages were unknown.

The name of Antyllus is associated with operations for cataract. It seems that couching, needling, and excision were all known to the Greeks; indeed, couching was known to the early Egyptians.

Then comes the great name of Galen (A.D. 131-200), in the age of Hadrian and the Antonines. As a physiologist he showed that arteries did not contain air but blood. He declared, also, that respiration maintained the animal heat, and made the suggestive remark that when we discover what part of the atmosphere supports combustion we shall know the source of the temperature of the body.

The doctrines of Galen held unquestioned authority for fourteen centuries, and in the history of a progressive science this is a lamentable confession. Although Galen was dictatorial enough when living, he is not to be blamed because people bowed to his authority for centuries after he was dead. While the Roman State was powerful the people were forced to obey authority in civil life, and when Christianity became powerful the Church imposed her authority on the people in matters of faith, and freedom of thought and investigation were sternly repressed. It was held, as St. Basil taught, "not all diseases are produced by nature or by our own bad habits; some are sent by God as a trial of our faith or punishment for some forgotten sin, and when we are conscious of this we should by no means go to a physician, but bear patiently the chastening of the Lord."

On the other hand, the Church, from its earliest days, paid attention to the sick poor, and it is not till Christian times that we have clear evidence of medical institutions supported by public subscription. In ancient Greece the Iatreia were evidently rate-supported. Ancient India had hospitals, but these were probably maintained by the State or by the bounty of kings. The first notice we have of an hospital supported by subscription is of that founded at Edessa about 372.

The Alexandrian school came to an end in 391, when a Christian mob, headed by the Archbishop Theophilus, seized and destroyed the Serapeum, burned the library, and dispersed the Greek philosophers.

In 431 a Council at Ephesus pronounced anathema against Nestorius, Archbishop of Constantinople, and his followers because they declared that the title "Mother of God" could not rightly be applied to the Virgin Mary. Debarred from promotion in Church or State, these Nestorians devoted themselves to medicine, and as they flourished the hospital at Edessa came into their hands, and the school there soon became renowned, but in 489 Bishop Cyrus persuaded the Emperor to banish the Nestorians and close the school. Some of these exiles took refuge in Persia, where they were well received. At Gondisapor they found a kind of university already existing, and this soon became Nestorian. They were, however, liberal-minded enough to welcome the Pagan philosophers, also exiled, and the school became famous. Some of its disciples travelled to India, and brought back not only a knowledge of new drugs, but a collection of tales on which are based the *Arabian Nights* and some of the old European romances.

Leo III, although he had fought long and successfully against the Mohammedans in defence of Constantinople, had been impressed with the simplicity of their worship, and in 726 ordered that all images be removed from the churches. This gave rise to the iconoclast controversy, which lasted for more than a century. In the end the orthodox party triumphed, and the Iconoclasts fled, some to Gondisapor, some to Salerno.

At Gondisapor the Nestorians trained the Saracens. Harets, the first Arabian physician whose name is preserved, was, although a Christian, physician to Mohammed himself. Accordingly, many caliphs felt themselves at liberty to employ Christian physicians; thus, members of the family of Bachtishua were physicians for four generations to the caliphs of Bagdad, including the celebrated Haroun-al-Raschid.

The school of Gondisapor produced some famous men, including Rhazes, Haly Abbas, and Avicenna. Rhazes wrote on small-pox and measles, and introduced many new chemical remedies. Avicenna's works were translated by Constantine, the African, and introduced to Salerno in 1080, where they constituted a text-book for four centuries.

Among the Saracens in Spain a great school arose at Cordova, and Michael Scot is said to have studied here, and to have experimented with anæsthetics. Arnald, of Villanova, in his Breviarium, gives the following recipe:—"To produce sleep so profound that the patient may be cut and will feel nothing, as though he were dead. It is an 'experimentum' of Magister Michael Scot—Take of Opium Mandragora Bark and Henbane Root equal parts, pound them together and mix with water. When you want to sew or cut a man, dip a rag in this and put it to his forehead and nostrils. He will soon sleep so deeply that you may do what you will. To wake him up, dip the rag in strong vinegar."

The principal names associated with the school at Cordova are Albucasis, who published the first illustrated book on surgery, and Avenzoar, who described pericarditis and mediastinal abscess. His name, with that of Averroës and Maimonides, carries us down to the end of the twelfth century.

Thus, during the dark ages of Europe, from the fifth to the eleventh century, the science of medicine was preserved by the Saracens, yet it was Greek medicine transmitted to them by the exiled heretics.

Another colony of Greek exiles we saw settled at Salerno. This school rapidly became famous, and was the first European university. Its golden age was from A.D. 1000 onwards until in 1194 the Emperor Henry VI used the money obtained for the ransom of Richard the Lion-heart to conquer Southern Italy. Salerno was sacked, and the wives and daughters of the professors were sold at public auction by the soldiers.

The decline which followed was hastened by the establishment of rival schools in Italy, and by the rise of northern universities. It existed, however, till 1811, when it was closed by an edict of Napoleon, but by that time its glory had long departed.

The Salernitan physicians paid great attention to dietetics and personal hygiene. They were the first who were styled "doctor," and this title became a recognised degree at the end of the twelfth century.

The thirteenth century saw a revival of learning, largely due to the influence of the Saracens, and now we find the prominent physicians coming into conflict with the Church. Arnald, of Villanova (1235-1312), studied Arabic chemistry, including alcohol, and laid the foundations of our tinctures. His is the first great name associated with the school of Montpellier. Although he was protected by Pope Clement V, his works were publicly burned by the Church.

Peter, of Abano (1250-1315), the first great physician of Padua, was so imprudent as to suggest that the case of a patient who lay for three days in a trance might explain some miracles, including the raising of Lazarus. He even denied the existence of the Devil. An opportune death saved him from being burned alive; but they burned his bones, devoted his memory to eternal infamy, and confiscated his wealth to the Church.

On the other hand, one physician was raised to the chair of St. Peter. A physician's son, Peter, of Lisbon, was trained in medicine before he entered the Church. In time he became physician to Pope Gregory X, with the rank of Cardinal, Bishop of Tusculum. Three Popes died within seven months, causing much disorder in ecclesiastical affairs, and so Peter was made Pope John XXI, because he was comparatively young and a physician, and also because he had prophesied for himself a long life. The roof of his chamber fell on him, however, and he died within seven months of his elevation. Many held that this was a judgment for abusing the monks; others said it was because he was a magician, and despised the decrees of the General Council.

Italian surgery was introduced into France by Lanfranc, of Milan, who became a member of the College of St. Cóme in 1295. He was a pupil of William, of Saliceto, who gives a clear account of the symptoms and pathological appearance of cirrhosis of the kidney, Lanfranc trained Henry de Mondeville, who was the tutor of Guy de Chauliac, so often mentioned by Dr. Granger last year in connection with the Black Death. It is interesting to notice that Guy de Chauliac was acquainted with many things we are apt to suppose to be of a much later date. He knew about stiffening bandages, he suspended fractures in cradles, and he used the long splint and the weight and pulley.

The revival of learning dates from the invention of printing and the revival of Greek learning. In medical matters, the revival of classical learning may be dated from the discovery in 1443 by Thomas, of Sarzana, afterwards Pope Nicholas V, in the church of St. Ambrose in Milan, of a manuscript of the "De Medicina" by Celsus, which had disappeared for many centuries. This was the first medical book ever printed, and gave the physicians of that time their first opportunity of studying the best side of Hippocratic medicine unspoiled by bad translations.

Ten years later the fall of Constantinople caused the dispersal of Greek teachers and Greek manuscripts throughout Europe. The translation and study of these, including the aphorisms of Hippocrates and the works of Galen, naturally followed. This revelation of ancient methods produced a more critical spirit, and a tendency to independent observation. New diseases also appeared, such as sweating sickness and scurvy, and helped to overthrow the old authorities.

The "Practica Copiosa" of John, of Vigo, is the last important production of the Arabian school. This book went through twenty editions in a very short time, an event unparalleled in the first century of printing. This success was due largely to the fact that the older books were put out of date by the growing importance of gunshot wounds, and by the appearance of syphilis.

Linacre, who founded the Royal College of Surgeons of London in 1518, had studied in Padua and translated Galen into Latin in 1521. John Kaye, afterwards of Caius College, Cambridge, lectured on Aristotle at Padua, and Peter Lowe, the founder of the Royal Faculty of Physicians and Surgeons, Glasgow, who had also studied at Padua, translated the aphorisms of Hippocrates into English about 1598.

One result of this mental awakening was the rise of the mystic school, and of its adherents. The best known name is that of Paracelsus. This school, however, seems to have done but little to advance medicine.

It was largely to meet the requirements of the artists, and among these were Da Vinci, Raphael, and Michael Angelo, that the first improvements were made in anatomical studies. Vesalius, at that time professor at Padua, saw that there was little use in merely correcting Galen's errors, and so he started anatomy afresh by publishing his work on the "Structure of the Human Body" in 1543.

Soon after this the university chairs in Italy were filled by men whose names are well known to-day. Arantius and Varolius were in Bologna, Eustachius at Rome, and in 1551 Fallopius became professor at Padua. In 1598, when Harvey came to Padua, his tutor was Fabricius ab Aquapendente.

The college of France was instituted in 1530 under Guido Guidi from Florence, and he was succeeded by Sylvius, a teacher of greater men than himself. It is interesting to notice that the three greatest students of Sylvius all suffered at the hands of the theologians. Vesalius, whom we saw at Padua, was persecuted; Etienne died in the dungeons of the Inquisition; and Servetus, the greatest man probably of the three, was burned by Calvin in 1553. Servetus showed that the blood was aerated in the lungs, or, as he said, purged by expiration. It seems strange that when he came so near he should just have missed the discovery which made Harvey famous. At this time the valves in the veins had been discovered, but their use was misunderstood.

In surgery Ambrose Pare (1517-1590) reintroduced the ligature and the use of simple dressings. He also introduced podalic version in midwifery.

Of Harvey, who published his work in 1628, we need say nothing. He is considered to have opened a new era in medicine, and advances were made rapidly. The lacteals had been seen by the old anatomists; Gaspar Aselli now explained them. This work was completed by Pecquet and Rudbeck, who discovered the receptaculum chyli and thoracic duct. Four years after Harvey's death Malpighi actually saw the circulation in the mesentery of a frog.

At this time appeared a number of men of note. In England, Glisson, Highmore, Willis, and Wharton; in Germany, Meibom, Schneider, and Wirsung; in France, Vieussens; in Switzerland, Peyer and Brunner; and in Holland, Graaf and Nuck.

In September, 1683, van Lewenhoeck found micro-organisms in the white matter between his teeth, and described various bacteria and bacilli. This may be considered the opening event in the history of bacteriology, but little further progress was made until quite recent times, when improved microscopes and improved methods of staining aided the observers.

The rapid advances in physics and chemistry tended to the formation of two parties in medicine. On the chemical side, Sylvius, of Leyden, after whom the Sylvian fissure is named, taught that the processes of fermentation were the causes of bodily nutrition or change, and that health and disease depended on normal or abnormal fermentation. On the mechanical side, Sanatorius, of Padua, first used the thermometer in clinical studies in 1597.

These schools gradually discovered that their theories could not explain everything, and so we have Sydenham (1624-1689) repeating Hippocrates that medicine depends not on theory but on observation, and again emphasising the need for clinical histories. He treated fevers, not with purges and sweats, but with cooling drinks and fresh air. His greatest disciples were Baglivi and Boerhaave. The doctrines loosely combined by Boerhaave were formed into a definite system by Hoffman, of Hallé, in spite of the warnings of his own teachers of the danger of making systems. It must be admitted, however, that his theories have a very modern air, and the present teaching as to the causes of arterio-sclerosis seems a repetition of Hoffman in modern scientific phrases.

Perhaps I may be permitted to mention here that Dr. Norman Moore, in his *History of Medicine in the British Isles*, makes a statement which, although true, seems to me a little misleading. After stating that the medicine of England is from the Renaissance, Dr. Moore says—"The medicine which made Edinburgh University famous throughout the world was derived from Holland, and from Edinburgh spread its influence, not only in Scotland and Ireland, but also in England, where clinical studies were already habitual among physicians," and goes on to say that Alexander Monro, who began systematic teaching at Edinburgh University, studied under Boerhaave in 1718. This seems to suggest that the study of medicine in Scotland began with Monro, especially as I can find no reference to the Colleges of Physicians and Surgeons in Edinburgh nor to the Faculty in Glasgow. Now, the *Calendar* of the Royal College of Surgeons of Edinburgh tells us that that institution began the systematic teaching of anatomy and surgery in 1697, and until 1722 all the teaching in Edinburgh was done by the College of Surgeons. In Glasgow the Faculty was founded in 1599, and we are told by Dr. Duncan that one of the duties of the Visitor was to supervise the instruction of the apprentices. The Chair of Medicine in the University was founded in 1637, suppressed in 1640, and refounded in 1713.

Since physics and chemistry had failed to explain vital activity, other views were advanced. The Animists held that life was due to some spiritual entity, which acted on the body like an engineer on his engine. The Organicists held that life resulted from the intimate structure of the organs of the body. Haller, in 1752, showed that irritability of tissues continued after the death of the animal, and even when the tissue was separated from the animal. This seemed to do away with the spirit. The discovery of oxygen and the increased knowledge of electricity led Reil to the theory that the body was like a collection of voltaic piles—in fact, that life was electricity.

Modern medicine, like the revival of medicine in the fifteenth century, may in a sense be said to arise from a discovery of long lost papers. The anatomical drawings of Eustachius, which had been lost for 150 years, were sent by the finder to a friend who at that time was Professor of Theoretic Medicine at Padua, with the request that he should point out what discoveries they contained which had been rediscovered in the interval. The reply, which was sent in eight days, was published in 1714, and so increased the writer's reputation that he was made Professor of Anatomy in Padua, and thus successor to Vesalius, Fallopius, Fabricius, Gasserius, and Spigelius. This was Morgagni, the Father of Pathology. Eustachius had said that he regretted in his old age that he had not devoted himself to the study of morbid structures. This remark may have determined Morgagni, who, after forty-six years' work, produced his book, *Seats and Causes of Diseases*, in 1761. In the same year Auenbrugger, of Vienna, published his book on *Percussion*, and in 1819 Laennec published his treatise on *Mediate Auscultation.*

The events of last century—the chief of which were the advances in pathology under the influence of Virchow, and the revolution in surgical practice under Lister, who was influenced by those researches of Pasteur which have led to the development of bacteriology—are too well known to you to require further notice.

Since our Society began to hold its meetings in this room, we have seen Metchnikoff's discovery of the phagocytic action of the white corpuscles lead to the development of serum therapy, and the detection by Ronald Ross of the mosquito as a carrier of malaria has entirely altered our attitude towards some of the most deadly of the diseases of tropical countries.

The general result of all our increased knowledge is to confirm the statement, made by Hippocrates, that the business of the physician is to help Nature, for in doing so he shall take his proper place as the servant of Nature, for our natures are the physicians of diseases, and to-day we read into these words a deeper meaning than ever before.

SIR WILLIAM T. GAIRDNER, K.C.B., M.D., F.R.S.: AN APPRECIATION.[1]

By J. WALLACE ANDERSON, M.D.,
Late Physician, Glasgow Royal Infirmary.

Gentlemen,—Last year my predecessor in the chair gave you some personal reminiscences of Lord Lister, who had passed away very shortly before; and I propose this evening to say a few words regarding a distinguished physician who, like Lord Lister, held office in our Royal Infirmary for a period of about ten years, and was practically contemporary with Lister. I mean Sir William Gairdner. I think a short reference to Professor Gairdner is appropriate to the present occasion, although a few years have elapsed since his death.

Those of us who remember Gairdner at all, will recollect the tall, somewhat stooping figure, the gentle, benign, thoughtful countenance, which at once impressed and captivated the most indifferent onlooker. On addressing him one would be struck with his quiet, dignified, absolutely natural courtesy; would remark, probably, his easy, rather deliberate manner, which might leave an after-impression of lack of aptitude or decision; an impression which would be perfectly correct. The adventurous and superficial man might say in a whisper that he was a rather soft old gentleman; in that he would be completely wrong.

I think that, up to a point, I knew Gairdner well, and as my knowledge of him began when he was teacher and chief in our old Royal, it is fitting that I should give you to-night in outline my impression—not so much of the physician as of the man himself.

An outstanding feature of his character was his unselfishness. It was largely a natural trait. He was the very antithesis of self-seeking. How he stood with the world, and what he possessed in it, gave him as an individual little concern. "My minde to me a kingdom is," we can imagine him saying, and being quite satisfied. And so it was easy for him to carry his unselfishness into his daily practice. Many a doctor might on occasion forego his fee from a high ideal of his profession, but I believe Gairdner could completely forget about his fee, and forget that he had forgotten it. It was probably his unselfishness that lay at the foundation of an occasional awkward neutrality which he assumed when his opinion was sought, as it often was, regarding the qualifications of candidates for some professional appointment. The very thought that he might be influenced by his friendship for one or other, and therefore be acting from self-interest, led him sometimes to be quite neutral when he might with advantage have taken a definite side.

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[1] Remarks from the chair in proposing the toast of the "G.R.I." at the dinner of the Glasgow Royal Infirmary Club on 14th March, 1913.

Another great feature of Gairdner was his open-heartedness. His heart might well be open, for he had nothing to conceal. He was true to the core; he could not lie either in black or white. Being true himself, he instinctively believed in the truth of others. But he was no fool. He knew before the end of the day that some men were liars, but so generous, so guileless was he that in the morning he would begin afresh as if every man was as true as himself. One often hears the expression, "speaking frankly" or "speaking honestly." I question if Gairdner ever used either phrase; he had no need. If he thought that he ought to speak frankly he could do so, even to wounding; if he thought it inadvisable to speak honestly, that is to say, to speak out, he was silent—dead silent.

There was a particular form of his open-heartedness as a medical man to which I might refer in a word, what might be termed his artlessness. Even the Father of Medicine dwells on the advantage to the physician, in dealing with his patient, of making an impression with his knowledge and, still more, with his foreknowledge of disease. You are aware that Hippocrates gives us a special book on *Prognostiks*, and refers to the efficacy, as part of the treatment, of forecasting in the presence of the patient the probable course of the complaint. But Gairdner, although he fully recognised and taught, as most of us know, the benefit of moral treatment, the benefit to the patient of believing that his doctor knew all that was to be known of his case, was perfectly frank in the avowal of his own limited knowledge. It was quite his custom, in the presence of his patient, to take from his library a book on the subject of the patient's complaint and consult it, when most men would have postponed the enquiry to a more convenient season. There can be no doubt that this artlessness of his led sometimes to situations that were decidedly amusing, as when he told the parents, anxiously waiting for his line of treatment in a case of severe whooping-cough, that he did not know of any drug that materially lessened the severity of the paroxysms of coughing, but that in his own family an old doctor had once tried cochineal with, he thought, some benefit. We have here presented to us one of these apparent contradictions in Gairdner's character—open-heartedness, artlessness, simple-mindedness—but it was the simple-mindedness of the great man. And this brings me to my last point.

Probably all Gairdner's character is summed up in his great-heartedness. There is a saying of Stevenson, "The mean man doubts, the great-hearted is deceived. Great-heart was deceived. 'Very well,' says Great-heart." It is many years since I read this (I cannot now verify the quotation), but the moment I read it I said to myself, "That is Gairdner," and the conviction of the truth of the likeness has grown upon me ever since. The complacency of the "Very well" is Gairdner exactly. I never saw a look of reproach or contempt, or even annoyance, in his face at any paltry meanness if it affected no one but himself. If the deception was trifling, and especially if it was quite a transparent one, he would see the humour of it rather than the wrong of it, and let it pass; but if the deception was really a mean one, especially if it was one affecting a general interest which came within his own responsibility, then he could enter a vigorous protest, although we can recall instances when, having made his protest, he was done with the thing, and allowed the wrong to pursue its course. For Gairdner could not abide a mean thing; he must away with it. No pettiness would he notice, not even a triviality unless it were presented with a spice of humour. But wit or humour, especially if it were the pawky humour of a fellow-countryman, he could appreciate and enjoy to the full; but I never heard him make the faintest approach to a pun, unless by accident.

Gairdner's greatness lay in his nobility of mind. He was not a man of great deeds. He was not a man of action or of enterprise, but a man of great thoughts. Of rank he recognised not only the necessity but the appropriateness in the social economy; but, and I am speaking still of the man himself, he seemed to feel that such questions were no concern of his—they seemed to be of no interest to him. It is no secret now that he once declined a title. "A medical man," he once said to me, "has no concern with rank unless he is connected with the Court, when it is necessary for purposes of precedence." And here let me say just a word about Gairdner in his official capacity. He did not magnify his office, but it was very dear to him. "I would be content," he said, "to be known, to be remembered, simply by the title of 'doctor' or 'professor.'" His office as teacher was not only very dear to him, but he was jealous of its honour. He claimed respect for himself as Professor of Medicine in the University, and, when necessary, he could insist on that respect being formally acknowledged. I believe that when he thought, not of himself primarily, but of himself as professor, he felt that he was entitled to rank with the great teachers of the past, and that it was his duty to maintain the prestige and the traditions of our ancient calling. With these high ideals, nothing became Gairdner more than the way he demitted office when he began to feel the pressure of advancing years. So in the evening of his life it was granted him to rest awhile, and then he went away.

It is remarkable that no posthumous honours, as ordinarily understood, have been paid to Gairdner; but what to me is more remarkable is that in this very omission he has got his heart's desire. The world has dealt kindly with him in leaving him alone; it is a considerate world after all. Gairdner was no materialist; if anything, he was a mystic. I prefer to call him a spiritually-minded man. His desire was to live and continue to live in the hearts of those who knew him and loved him and revered his memory. Those of us who, looking back twenty-two years, can recall the presentation of his portrait to the University by his old students, will remember with what deep feelings he spoke of the departed friends, teachers and pupils, of his early days. "Can we suppose," he said, "that while my own heart yearns towards them, on this occasion, they are altogether unconscious or indifferent as to what is happening to me? I prefer to believe that these men, and many others like them, are really with us to-day." The belief that they were witnesses of the honour paid to him, and were rejoicing with him in his joy, was to Gairdner the dearest thought of all.

Gentlemen, we cannot draw aside the veil, but this we know, that it is good for you and me to bear the memory of the old master lovingly on our hearts; and if we in turn believe that he is with us, and is pleased when we think and talk about him now, surely it is a faith that even the most sceptical will hardly hold in disdain.

Obituary.

WILLIAM THOMAS AINSWORTH, M.B., C.M. GLASG.,
SHIPLEY, YORKS.

WE regret to have to announce the death of Dr. W. T. Ainsworth, which took place suddenly at his residence in Shipley on 7th ult. Dr. Ainsworth, a son of the late Mr. William Ainsworth, of Crieff, studied medicine at the University of Glasgow, and graduated M.B., C.M., in 1893. He was Honorary Medical Officer, Sir Titus Salt's Hospital, Saltaine, and Surgeon to the Oddfellows, &c.

CURRENT TOPICS.

APPOINTMENTS.—The following appointments have recently been made:—

Miss Elizabeth M. M'Vail, M.B., Ch.B.Glasg. (1906), D.P.H. Camb., to be a Medical Assistant in the Public Health Department of the London County Council. Miss M'Vail is at present Inspector under the Scottish Local Government Board, an appointment which she received in 1910.

Helensburgh: Victoria Infirmary.—At a recent meeting of the directors of the Victoria Infirmary of Helensburgh, Dr. G. H. Edington (Glasgow) was appointed Consulting Surgeon to the infirmary.

THE ROYAL SAMARITAN HOSPITAL, GLASGOW.—At a recent meeting of the directors of the Royal Samaritan Hospital it was unanimously resolved to throw open the resident appointments to men graduates, instead of restricting them as hitherto to women. The hospital contains accommodation for ninety patients, and is now larger than any other purely gynæcological hospital in Great Britain or Ireland. There are three resident surgeons.

UNIVERSITY OF LONDON: STAFF EXAMINERSHIPS.—At a meeting of Senate of the University of London, held on 19th February, Professor R. Muir (Glasgow) was appointed Staff Examiner in Pathology, and Alex. Macphail, M.B., C.M.Glasg., Staff Examiner in Anatomy. Both appointments are for the period 1913-1914.

THE "JAMES WATSON" LECTURES.—Dr. T. K. Dalziel delivered the James Watson Lectures in the Hall of the Royal Faculty of Physicians and Surgeons on 11th and 14th ult. Dr. Dalziel chose as his subject "Practical Points in Abdominal Surgery," and, needless to say, he made it interesting to the large and appreciative audiences which assembled in the Faculty Hall. The lectures will shortly be published.

"G.R.I." CLUB DINNER.—The annual dinner of the Glasgow Royal Infirmary Club was held on 14th ult. in the Grosvenor Restaurant; Dr. J. Wallace Anderson presided, and about sixty members sat down. The chairman was supported by Drs. J. R. Watt (Ayr), Alex. Napier, D. N. Knox, T. K. Dalziel, T. K. Monro, James Chalmers (Sunderland), A. N. Macgregor, and others. Dr. W. R. Sewell (Helensburgh) acted as croupier, and was supported by Drs. G. S. Middleton, Macpherson (Cambuslang), and D. Newman.

In proposing the toast of the "Royal Infirmary," the chairman paid a graceful tribute to the memory of the late Sir William Gairdner, K.C.B. Dr. T. K. Monro replied. The toast of "Past and Present Residents," which was proposed by Dr. A. N. Macgregor, was responded to by Dr. James Devon, a former resident, and by Dr. John Young on behalf of the present residents.

The chairman's health was proposed by Dr. Henry Rutherfurd.

A programme rich in song and recitation was gone through in the course of the evening, among those taking part being Drs. Macpherson, Napier, J. R. Riddell, A. N. MacLellan, and W. Sewell, Jun. Councillor Dr. W. Gemmell contributed the "Scotchman's Return," and Dr. J. F. Fergus read "The Old Stethoscope" and "The Hermaphrodite." Dr. Adam Patrick also recited, and Dr. Wilson (one of the present residents) played a selection on the pipes.

During an interval in the programme opportunity was given to the members to move about and revive old memories with former fellow-residents. As usual, the evening passed all too quickly, and when the signal was given for "Auld Lang Syne" all felt that it had come earlier than they had expected.

The croupier, Dr. Sewell, of Helensburgh, was unanimously appointed chairman for next year's dinner.

From the secretaries' report it was seen that the Club had now a membership of 258, and was financially in a thoroughly sound condition.

French Translation of Dr. Elizabeth T. Fraser's "Manual of Immunity for Students and Practitioners."—This admirable *Manual*, which was published a few months ago, and which has been so favourably received by British reviewers, has been translated into French by Mons. Kufferath, of the Pasteur Institute in Brussels. Professor Bordet has written a preface for the translation, which will be published by Lamertin, of Brussels.

Robert Urie, a Glasgow Printer.—On 16th February Dr. Hugh M'Lean delivered a lecture to the Glasgow Bibliographical Society, the subject being "Robert Urie."

After dealing with the birth, early life, and education of Urie, the lecturer said that he commenced business in the Gallowgate in 1740. Ten years later he removed to the foot of the Saltmarket, the premises he occupied being situated on the east side of the street below the line of modern Steel Street. His early work was rather poor; but after Alexander Wilson started his type foundry in Camlachie (about 1743), the works issuing from Urie's press were of a very high order. He printed the *Glasgow Journal*, and during the troublous times of the '45 he edited it as well. His works included theological reprints, Latin and Greek classics, essays, and *belles lettres*, including a number of translations from the French, works on history and travel, poetical and dramatic works, a few medical and other technical treatises, besides a number of books on general literature.

Dealing with the vexed question of Urie's imprints, Dr. M'Lean said that from 1740-1748 the books issued from his press bore to be "Printed By Robt. Urie and Co."; from 1747-1759 the imprint, with some few exceptions, was "Printed By Robt. Urie"; thereafter the usual imprint was "Printed For Robt. Urie," although after 1759 several books have the imprint "Printed By Robt. Urie," others which bear the imprint "For Robt. Urie" were advertised at the end of other books as "Printed By Robt. Urie," all of which went to prove that Urie actually printed all the books which bore the imprint "Printed For Robt. Urie." With reference to the "Company," the lecturer showed that this was formed of Andrew Stalker, Alex. Carlile, and Robert Urie.

Dealing further with the question of the imprint, Dr. M'Lean showed that from 1740-1747 Urie was in company, and therefore could not be in business for himself. Even then, when his imprint was "Printed By Robt. Urie," he had "a Master," as was shown by an entry in the burgess register. The further change to "Printed For Robt. Urie" indicated that Urie was not in business, at least as a printer on his own behalf. Finally, in his will Urie left no interest in a printing business. If he had owned or controlled such a business it was hardly conceivable that he would not have bequeathed his rights.

Urie was unmarried. He died of a stroke of the palsy on Saturday, 9th February, 1771, and was buried in the Ramshorn Kirkyard.

In conclusion, Dr. M'Lean said that, if the Foulis Brothers were omittted, Urie stood head and shoulders above his fellows. It was only when Urie and Foulis were compared that difficulties arose, and for this reason, that the reputation of the two men rested on an entirely different class of work. Urie's was founded on his beautiful 8vo and 12mo books, while Robert Foulis was favourably known through his most excellent folios. Urie was the first local printer to make his business an art rather than a trade; he was the forerunner and exemplar of those who afterwards outstripped him in the race, and certainly contributed in some degree to strengthen and enlarge the influences which through time combined to place Glasgow in the forefront of those cities striving together for commercial supremacy and artistic pre-eminence.

MEDICAL INSPECTION OF SCHOOL CHILDREN.—The first report on the medical inspection of school children in Scotland, prepared by Dr. W. Leslie Mackenzie, medical member of the Local Government Board for Scotland, has just been issued.

Dr. Mackenzie observes that the fact of medical inspection of school children having in the short space of two or three years become an accepted part of educational administration, shows that the system has grown out of a demonstrated social need. The results of the inspection show that under every heading of the elaborate schedules there are considerable percentages of actual disease. But, still more, inspection has shown that literally in thousands of cases diseased conditions are permitted to develop, which, if taken in their early stages, could with perfect ease have been prevented. Many minor ailments obstructive to education are not considered worth the attention of the doctor, and in many ways these conditions interfere not only with the education of the children but with their after efficiency as citizens. The inspection, carried out systematically, is bringing home to parents the need for early attention and treatment, it is forcing upwards among all classes the standard of efficiency, and it is directing towards treatment a steady stream of cases that a few years ago only the wealthier classes of the community thought it necessary to consider.

Dr. Mackenzie considers that one use of inspection is that it has raised the question as to its utility without treatment. He refers to the "following up" by nurses of the cases discovered at the inspections. This has secured already a great deal of treatment; but although it has been of great use in this way it can only do a part, and Dr. Mackenzie is of opinion that it must be supplemented by new organisation. Especially in country districts will it be necessary to provide clinics for the treatment of such special diseases as those of the eye and ear.

The sanitation of the schools is also touched upon, as also the subject of dirty and verminous children. Dr. Mackenzie concludes that from the facts presented it is obvious that the full resources, either of the school boards or of the public health authorities, have not yet been seriously concentrated on the special problems presented by unclean, verminous, and neglected children.

The report is full of interest, and ought to wield a weighty influence on the establishment of the means of treating those whose defects are brought to light by the inspection.

THE DIET OF THE LABOURING CLASSES IN GLASGOW.—An investigation, the result of co-operation between the Corporation of Glasgow and the University, into the diet of the labouring classes in the city has just been completed by Miss Dorothy E. Lindsay, B.Sc., Carnegie Research Fellow in the University.

Studies were made in sixty houses selected from various of the poorest districts in the city—Cowcaddens, Anderston, Bridgeton, Gorbals, and Woodside. The British families were chosen from those living in houses of from one to two rooms, and from families of from three to ten children. The earnings varied from 13s. a week to nearly £3. Most of the studies were carried on for a week: some were carried on for a fortnight in order to meet the criticism that a study of seven days was too short to give a fair average.

The sixty households were arranged in ten groups:—

A—Income regular, children earning; average 39s.
B—Income regular, lodgers kept; average 43s.
C—Income regular, between 27s. and 31s.
D—Income regular, between 20s. and 25s.
E—Income regular, under 20s.
F—Income irregular, over 20s.
G—Income irregular, under 20s.
H—Income irregular; father a drinker.
K—Jewish.
L—Italian.

To compare the requirements of one family with another it is convenient to express them in some common term, such as the requirements of a man per day. To do this the requirements of each member of the family are set down in terms of the requirements of a man taken as a unit. So that the requirements of the families instanced would be stated:—Family I—Man, 1·0; woman, 0·8; boy (14), 0·8; child (11), 0·6; child (9), 0·5; child (5), 0·4—total family equal 4·1 men. Family II—Woman, 0·8; girl (14), 0·7—total equal 1·5 men. The dietary requirements of the first family is that of 4·1 men, of the second 1·5 men. If, then, there was found the food consumed by each family and that of the first family was divided by 4·1 and that of the second by 1·5, it would be expressed in each case as the food consumed per one man per diem, and the one with the other could at once be compared. This method has been adopted throughout the present investigation. If a family diet expressed in this way gives a yield of energy of less than 3,500 calories per man per day it is insufficient for active work, and if less than 3,000 calories it is quite inadequate for the proper maintenance of growth and of normal activity.

Regarding the first group it is noted that where money was plentiful there was not much foresight or thought expended on the marketing. Tea and sugar might perhaps be bought once a week, but supplies were mostly got by the day. In each of the seven families composing the group the bulk of the money was handed over to the house-mother, and although various members of these families were not abstainers, yet on the whole the money spent on drink was inconsiderable.

They were all decent, well-doing people. The families could not be considered as among the very poor, and they ought to be able to afford enough to eat. Where the diet was notably inadequate this was due mostly to bad marketing and to waste, and also to ignorance as to the best kind of food to buy. The average cost of the diet per man per day was 6·5 pence, which was not excessive. The average return obtained was 500 calories per penny. As regards energy value the diets were not very satisfactory. Only one exceeded the standard necessary for moderate labour, while three fell below the minimum of 3,000 calories. A knowledge of the value of the different classes of food might probably have helped to improve those diets.

Regarding Group B, it is noted that the usual sum paid by boarders was 11s. to 12s. a week, and although the house-mothers maintained that this sum did little more than cover the cost of the food yet it was a help to the family diet and finances. The lodgers insisted upon being well fed, and though of course the children did not profit so directly as the adults, still they enjoyed a share of the better and more abundant food. In several of these households the expenditure on food was very great. This was sometimes partly accounted for by the men taking their mid-day meal or "piece" with them, an extravagant method of procedure. The "piece" as a rule consisted of a couple of slices of bread and butter with a chop, or an egg, or similar addition, and some dry tea and sugar. The energy value of five of the diets in the group was on the whole satisfactory. Three fell short of the minimum of 3,000 calories per day. The value obtained per penny was not nearly so great as that obtained in Group A—391 calories as compared with 500 calories. This was due to the selection of expensive animal foods.

In Group C three households were studied, all being of a distinctly higher standard of comfort. The expenditure was about the same in each case, and was fairly high (8d. per man per day), but the food was of good quality.

The ten families in Group D represented the average poorer working class family. The energy value of the diet was generally good. The average energy value was 3,462 calories, so that those families in which the wage was regular and the weekly income over 20s. managed to obtain sufficient diet.

In the five households studied in Group E there was a sad state of affairs—poor houses and inadequate diet. Not one diet reached the minimum energy value of 3,000 calories per man per day. This class is that of the really poor, though the weekly incomes were regular. The cost per man per day ranged from 6·89d. to 4·59d., and as an illustration of the wide difference made by the skill in management of the house mother, one observes that the 4·59d. yielded 2,760 calories, while the 6·89d. produced 2,635 calories only. But although in the former case the mother had done remarkably well with the money spent, the energy value of the food was far below even the necessary minimum of 3,000 calories.

Dealing next with the families with irregular income, the report speaks of them as those who live from week to week, more often from day to day, as they can afford it, well and lavishly if work has been plentiful, half starved when work is scarce. As a rule, food was bought daily, very often at night, when the money came in. In the seven households in Group F the life was very irregular. The fluctuations in the work led to days of hard work followed by days of illness, days of plenty followed by days of starvation. The houses were clean and comfortable, or the reverse, according to the capacity and ideas of the housewife. The funeral societies were, as a rule, paid regularly, and were considered a first charge, coming almost before the food. When the housewife had any idea of management at all she laid past 1s. now and then towards the rent, &c., but as very often there came an idle day or a lean week the store was usually very small when rent day arrived. As a whole, those families were more hopeful, and took life more easily than those with a regular income. A good week meant plenty for them, and enabled them to live through a bad one, while they seldom thought of troubling to save. The average energy value of the diet was 2,994 calories, the extremes being 4,255 and 2,329. With one exception the low energy value corresponded to the low incomes, and the high energy value to the high incomes.

In the eight households of Group G the weekly income varied considerably, but very rarely rose over 20s. A hand-to-mouth existence was the rule. Tea was bought by the ounce or half-ounce as was possible. The houses were very poor, some very damp or dark, but often wonderfully well kept. The highest energy value got was 3,820 calories; the lowest 2,113. In one household porridge was eaten twice a day, morning and evening. The household of six used three-quarters of a stone of meal in the week, an amount very much above the average. The children were strong and healthy and well grown.

In four studies under Group H in only one of the diets was the energy value over 3,500 calories.

The five Jewish families studied in Group K were, on the whole, better off than most of the British families visited. The average weekly wage was 35s. The diet in these cases was adequate, but fairly expensive. "Kosher" meat cost more than that used by the Gentiles, and chickens, a weekly item, were expensive. Fish were used in large quantities. Compared with the diets of the British families the energy value obtained per penny by the Jews was small. In one household two adults and ten children sat down contentedly to a dinner of which a half chicken was the chief item.

Only three Italian families were visited. It was found difficult to carry on these studies, as the women had no idea of accuracy. The diets showed very marked variations, both in quality and quantity.

In a general summary of results the average daily energy value of all the diets studied gave 3,163 calories per man. The principal foodstuffs used were bread, potatoes, milk, sugar, beef, vegetables. The cheaper vegetable foods—oatmeal, peas, &c.—were used in relatively small amounts. Of the families whose weekly income was over 20s., 28·5 per cent had a diet the energy value of which was less than the minimum of 3,000 calories. Of the families whose weekly income was under 20s. or irregular, 62·5 per cent had a diet the energy value of which was less than 3,000 calories. Not one of the families in which the wage was regular and below 20s. had a diet the energy value of which reached the minimum of 3,000 calories. The figures showed that while the labouring classes with a regular income of over 20s. a week generally managed to secure a diet approaching the proper standard for active life, those with a smaller income, and those with an irregular income, entirely failed to get a supply of food sufficient for the proper development and growth of the body, or for the maintenance of a capacity for active work.

In looking over the diets, Miss Lindsay says one was struck by the want of variety of the food in most of the households. Bread, sugar, butter, tea, and beef occurred in all without exception. Of the meats other than beef, bacon, mince, and sausages occurred in 41 dietaries. Mince and sausages were cheap, but the quality was very variable. The average amount of fish used per man per day was only 2 oz. The principal vegetable foods were bread and potatoes. The amount of the latter was almost as great as the former.

Oatmeal was used in 46 families, but the average amount per man per day was less than 1 oz., a quantity which would fill two tablespoons level and make one small plateful of porridge. A porridge and milk diet contained the food principles in correct proportion. The protein-rich animal foods—flesh, fish, eggs, &c.—were all too expensive for the labouring classes, and any increase in their amount in the diet was impracticable. But cheese and the cheap protein-rich vegetable foods—oatmeal, peas, beans, &c.—should be more freely used. It seemed probable that only by proper instruction in schools would their value be sufficiently inculcated, while the methods of cooking them in the most palatable and most easily prepared form must be taught practically. That better marketing was required was shown by the great variation in the food return for the money expended.

The relationship of these diets to health is also discussed in the report, and it is shown by statistics that when the weight is much below the average for the age of a child, almost without exception the diet is inadequate.

A comparison of the percentage of the income expended on rent and food in the different groups of families shows, as one would expect, an increase in the percentage of each as the income decreases. Groups A, B, C, with a regular income above 25s., spend 11 per cent of their income on rent, 61·9 on food, leaving a surplus of 27·1; Groups D and E, with a regular income under 25s., spend 15·3 per cent on rent, 67·3 on food, leaving a surplus of 17·4; Groups F and G, with irregular income, spend 16 per cent on rent, 75·5 on food, leaving a surplus of 8·5; Group H, income irregular, father drinker, spends 17·9 on rent, 86·9 on food, the deficiency shown being 4·8. A consideration of these figures enabled them to realise the keenness of the struggle to make ends meet in the poorer houses, even with a regular income. After the charge for food and rent have been met, a sum of only 3s. or 4s. a week is left for all other expenses—clothing, fuel, taxes, amusements, &c.

In conclusion, it is observed that it is to be feared that in the face of old-established dietary habits, of ignorance, and of the stultifying influence of the surroundings, any reform in the mode of feeding which might set free a greater proportion of the income will only be slowly achieved as the result of proper teaching and training in the schools.

A number of valuable appendices are included in the report.

A SOCIETY FOR THE ADVANCEMENT OF CLINICAL STUDY has recently been organised in New York City, the purpose of which is to maintain a bureau of information which will furnish to resident and visiting physicians definite information regarding the clinical facilities of the hospitals and laboratories of the greater city. For this purpose a bulletin board has been installed at the Academy of Medicine, 19 West 43rd Street, in charge of a special clerk, who will be on duty between the hours of 9 and 6 to answer all telephone inquiries (Telephone 974 Bryant). The bulletin board will consist of two sections, on one of which will be posted month by month the regular clinics, medical and surgical, and also laboratory demonstrations, all of which are held at stated hours. The second section will include full announcements of daily operations and demonstrations of cases, both medical and surgical, which, as far as possible, will be announced on the day preceding their performance. It is believed that these facilities will afford physicians, who are interested in observing particular operations and operators or clinicians, an opportunity to obtain the desired end with the least trouble. It is hoped that by this means the large and unexcelled clinical facilities of New York City will be made more accessible to those who may desire to make use of them.

INTERNATIONAL CONGRESS OF MEDICINE PRIZES.—On the occasion of the meeting in London of the Seventeenth International Congress of Medicine the Moscow, Paris, and Hungary Prizes will be awarded.

The City of Moscow Prize, founded in commemoration of the twelfth congress, is of the value of 5,000 francs, and is awarded for the best work in medicine or hygiene, or for eminent services rendered to suffering humanity.

The prize of the thirteenth congress (Paris), value 4,000 francs, will be awarded to an individual for a discovery or a collection of original works (not extending back over ten years) bearing on medicine, surgery, or obstetrics, or anatomical or biological science in its application to medical science.

The Hungary Prize, instituted in commemoration of the sixteenth congress, is of the value of 3,000 crowns, is designed to reward a work, within the domain of medical science, which has appeared between that congress and the forthcoming one.

The permanent committee of International Congresses invite nominations of those judged by their colleagues worthy of these prizes. Candidates are also invited to forward applications on their own behalf. Applications should be accompanied by a copy of the work on which the application is founded. No application made after 1st June will be entertained.

All communications should be addressed to the Bureau de la Commission permanente, La Haye, Hugo de Grootstraat, 10, Pays-Bas.

PRIZE ESSAY ON DIABETES.—The Society of Karlsbad Physicians announces a prize to be given for the best essay on "The Treatment of Diabetes Mellitus, with Special Reference to Balneotherapy." The jury will be Professor Dr. Ritter von Jaksch, of Prague; Professor Dr. Luethje, of Kiel; Professor Ortner, of Vienna; Professor Dr. Schmidt, of Innsbruck; and Dr. Edgar Ganz, President of the Society of Karlsbad Physicians. It remains optional with the judges to award either one prize of 5,000 kronen, or two prizes of 3,500 and 1,500 kronen, or three prizes of 2,500, 1,500, and 1,000 kronen. The competition is open to physicians of all countries. Any language may be used. The time of contest expires 31st December, 1913. Any further information may be obtained from the Society of Karlsbad Physicians at Karlsbad.

THIRD INTERNATIONAL CONGRESS OF NEUROLOGY AND PSYCHIATRY.—The Third International Congress of Neurology and Psychiatry will be held in August (20th-26th) of this year in Gand. We subjoin the programme of the Congress, which we have just received:—

TRAVAUX DU CONGRÈS.

I. RAPPORTS.

(*a*) *Neurologie.*

Prof. Marinesco, Bucarest—Sur la structure colloïdale des cellules nerveuses et ses variations à l'état normal et pathologique.

Prof. Sachs, New York—Syphilitic spondylitis and allied conditions.

Prof. D'Abundo, Catane—La fonction du nucleus lentiformis.

Dr. Mendelssohn, Paris—Valeur diagnostique et pronostique des réflexes.

Prof. Dustin, Bruxelles—Le mécanisme de la régénération dans le système nerveux : régénération normale et pathologique. Neurocladisme.

Drs. Laruelle et Deroitte, Bruxelles—Diagnostic et localisation précoce des tumeurs intracraniennes.

(*b*) *Psychiatrie, psychopathologie et assistance.*

Prof. Von Wagner et Pilcz, Vienne—Ueber die Behandlung der Progressive Paralyse.

Drs. Sérieux et Lucien Libert, Paris—Les psychoses interprétatives aiguës.

Dr. Smith Ely Jeliffe, New York—The growth and development of the psycho-analytic movement in the United States.

Dr. Parhon, Bucarest—Les glandes à sécrétion interne dans leurs rapports avec la physiologie et la pathologie mentale.

Dr. Sollier, Paris—Les états de régression de la personnalité.

Dr. Ed. Willems, Bruxelles—Anatomie pathologique des pyschoses séniles.

Drs. A. Ley et Menzerath, Bruxelles—La psychologie du témoignage chez les normaux et les aliénés.

Prof. Ferrari, Bologne—La colonisation libre des enfants anormaux et des jeunes criminels.

Dr. Van Deventer, Amsterdam—L'organisation de l'assistance et de l'inspection des aliénés hors des asiles y compris les psychopathes.

Drs. Claus (Anvers) et Meeus, Gheel—Le patronage des aliénés.

Dr. Decroly, Bruxelles—L'examen mental des anormaux.

James MacDonald, Ecosse—Sujet réservé.

II. COMMUNICATIONS.

Les membres du congrès peuvent présenter des communications originales ayant trait à un sujet quelconque des sciences neuro-psychiatriques. Ils sont priés d'envoyer le titre de ces communications avant le 1er mai 1913 et un court résumé, destiné à la presse, avant le 1er juillet 1913.

All inquiries regarding the Congress should be addressed to Dr. F. D'Hollander, 110 boulevard Dolez, Mons, Belgium.

HISTORICAL MEDICAL EXHIBITION, LONDON, 1913.—Among other historical medical objects of exceptional interest that have been secured for the Historical Medical Exhibition, organised by Mr. Henry S. Wellcome, and which will be opened in London during the meeting of the International Medical Congress in the coming summer, are many personal relics of Dr. Edward Jenner, the discoverer of vaccination. These include the original lancets and scarifiers he employed during his first experiments, his case and account books, his snuff box, medicine chest, and many other interesting articles. A large collection of autograph letters of Jenner's, some of them of unique interest, have also been loaned, together with the armchair from his study and in which he died.

Other objects connected with the life of Jenner are also to be exhibited, including many valuable portraits of himself and family, painted at different periods, the illuminated addresses presented to him together with the freedoms of the cities of London and Dublin, also medals, and other documents of special interest.

Concerning the history of anæsthesia, many interesting relics are to be exhibited, beginning with the original autograph journal and manuscripts of Henry Hill Hickman, F.R.C.S., the discoverer of the application of the principle of anæsthesia by inhalation for surgical operations, which he proved by actual experiments on animals in 1823. Personal relics of Sir James Simpson, and some of the earliest forms of apparatus for administering chloroform and ether, will constitute an exhibit of more than usual interest.

Those who may possess any objects of a similar character connected with the history of medicine and the allied sciences, and who would be willing to loan them, should communicate with the Secretary, 54a Wigmore Street, London, W., who will be pleased to forward a complete illustrated catalogue to anyone interested.

A.P.M. EDUCATIONAL TRIP TO SPAIN (EASTER, 1913).—This educational trip is the tenth meeting of the "International Association for Scientific and Medical Research" (A.P.M.), patronised by the French Government. It will take place from 1st till 24th April, 1913, in Spain and Portugal. The Society will meet at Perpignan.

Itinerary: Barcelona, Saragossa, Madrid, Toledo, l'Escurial, Cordone, Grenade, Gibraltar, Tangier, Algéçiras, Cadiz, Séville, Lisbon, Coïmbre, Oporto, Salamanca, Burgos, Bilbao, Saint-Sébastien. The party will dismiss at Biarritz.

Inquiries regarding the Association and its work should be addressed to A.P.M., 12 Rue François Millet, Paris XVI^{e}.

GERMAN MEDICAL STUDY-TOUR.—The German Central Committee for Medical Study-Tours has arranged this year for a tour embracing England, Scotland, Ireland, the Channel Islands, Rotterdam, the Hague, Scheveningen. The twin-screw steamer *Kronprinzessin Cecilie*, of the Hamburg-Amerika Line has been specially chartered, and leaves Hamburg on 3rd August, returning there on 28th of that month. The following itinerary has been arranged:—London, Scarborough, Leith, Edinburgh, Scottish Lakes, Aberdeen, Stornoway, Staffa, Iona, Oban, Glasgow, Belfast, Kingstown, Dublin, Jersey, Guernsey, Rotterdam, the Hague, and Scheveningen.

Information as to fares, &c., may be had on application to the Büro des Deutschen Zentralkomitees für Ärztliche Studienreisen, Berlin, W. G., Potsdamerstr., 134 b.

LITERARY INTELLIGENCE.—Messrs. J. & A. Churchill are about to publish an important new book entitled *The Difficulties and Emergencies of Obstetric Practice*, by Mr. Comyns Berkeley and Mr. Victor Bonney, Obstetric and Gynæcological Surgeons to the Middlesex Hospital. The illustrations are all original and very numerous. They are, moreover, drawn by an expert artist, who is himself a medical man.

The same publishers have just ready the sixth edition of *A Short Practice of Midwifery*, by Dr. Jellett, Master of the Rotunda Hospital, Dublin. The new edition is to be issued with a larger page, and has been revised throughout and contains many new illustrations. The popularity of the book is evident by the fact that 20,000 copies have been printed.

NEW PREPARATIONS, &c.

From Messrs. Burroughs Wellcome & Co.

"*Tabloid*" *Thyroid Gland* (gr. $\frac{1}{4}$ and also gr. $\frac{1}{10}$).—These are stated to be chemically standardised, so as to contain not less than 0·2 per cent of iodine. Tabloids containing gr. $\frac{1}{2}$, gr. 1, gr. $1\frac{1}{2}$, gr. $2\frac{1}{2}$, gr. 5, 0·05 gramme, 0·1 gramme, and 0·3 gramme, are also supplied.

"*Wellcome*" *Brand Tuberculin Bouillon Filtrate* (*Human* (T.A.O.), 1 c.c. phial containing 0·001 c.c. of T.A.O., and *Bovine* (P.T.O.), 1 c.c. phial containing 0·0001 c.c. of P.T.O.)—These are beautifully packed and sent out in sealed glass phials ready for use, and may be had in various dilutions. Might it be suggested that a string be passed round the inner bundle and the ends left loose at the top to facilitate withdrawal from the wooden container?

"*Tabloid*" *Bismuth Gauze* ($\frac{1}{2}$ inch)—The gauze is supplied in a small sterilised roll, 1 yard by $\frac{1}{2}$ inch, packed in paper covered with a varnish, so that the package is hermetically sealed. From personal use we can recommend this for packing purposes and for small dressings in place of iodoform gauze. It may be obtained in various sizes.

"*Tabloid*" *Digitalin* (*Crystalline*), gr. $\frac{1}{250}$.—This is stated to contain the glucoside digitalin, and to be much more potent than amorphous digitalin. It is, of course, advanced for use where the action of digitalis is desired.

"*Tabloid*" *Hypodermic Morphine Hypophosphite* (gr. $\frac{1}{4}$).—This is in the usual form of the well-known "Tabloid" hypodermics, and stated to be very soluble (1 in 3). Four strengths are issued.

"*Tabloid*" *Adjustable Head Dressing.*—A very neat form of cap, split from crown to edge so as to be easily adjusted to suit different sizes of head. A safety pin and piece of double cyanide gauze are packed with it. It should be a convenient and useful dressing, and is so made that it will not readily slip.

From Messrs. E. T. Pearson & Co., Limited.

Lactagol.—This is a fine powder of a light yellow colour, with no distinctive taste or odour. It is insoluble in water, and if boiled runs together into a sticky coagulum. It should be made into a paste with cold or warm milk, and then further diluted. It is described as "an extract of cotton seed refined of all the heavy oils, vegetable fibre, &c., which might give some trouble to the digestive functions." It is apparently largely proteid in composition, and it is advanced for use as a galactagogue where breast-feeding of infants is defective or not possible owing to poor qualities in the mother's milk. It is said to greatly improve quantity and quality, and many testimonials are printed from mothers and nurses in support of this statement. Its use is based on the employment of cotton seed in the feeding of cows.

From Messrs. The Fellows Company, of New York.

A *brochure* entitled "Some Don'ts," medical and surgical. This gives one a great many very dogmatic injunctions; but many, very many of them are good. We understand the *brochure* is being sent to all medical men; it is frankly an advertisement of this well-known Company, but it is well worth reading.

From Messrs. Allen & Hanburys, Limited.

"*Byno*" *Lecithin.*—This is a brownish liquid, with a clean, bitter taste. It is another of the well-known "Byno" preparations, and is stated to contain 4 grains of lecithin, with nux vomica alkaloids equivalent to $\frac{1}{40}$ grain of strychnine in each ounce; some cinchona alkaloids are also present, and the menstruum is "Bynin"—an extract of malt. This should be a useful preparation where such a combination of drugs and digestive food is indicated. It is quite palatable.

We would also draw attention to the "*Hypo-sol-ampoule Syringe*" of the same firm. It is quite the latest thing in subcutaneous medication, a sealed container which may be converted into a syringe in very little time, with the great advantage that both syringe and contents are sterile.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.

SESSION 1912-1913.

MEETING V.—13TH DECEMBER, 1912.

The Vice-President, MR. G. H. EDINGTON, *in the Chair.*

I.—CASE OF SPLENOMEGALY WITH POLYCYTHÆMIA AND VASCULAR CHANGES.

BY DR. T. K. MONRO.

[ABSTRACT.]

Dr. Monro reported on the last phase of the illness of a patient shown to the Society on 3rd May, 1912, as subject of splenomegaly, polycythæmia, increased arterial tension, arterio-sclerosis, cardiac hypertrophy, albuminuria, and gangrene.

When the patient was shown to the Society on 3rd May last the polycythæmia had already disappeared (reds on 2nd May, 4,000,000 per cm.; whites, 13,125 per cm.; hæmoglobin, barely 100 per cent; as compared with 7,200,000 per cm., 16,200 per cm., and 120 per cent respectively in March). In the latter part of his life he suffered greatly from pains in his legs. Early in June it was noted that gangrene was spreading to the dorsa of the feet, and several of the toes were separating. On 11th June the liver was found to extend 2 inches below the costal margin. Blood taken on the same day by Dr. J. Arch. Campbell for bacteriological examination proved to be sterile after seventy-two hours incubation. Patient died on 21st June.

Dr. J. H. Teacher described the changes found at the autopsy (abstract).

The *post-mortem* examination showed general chronic venous congestion of the cardiac type, apparently dependent on arterio-sclerosis. The apex of the heart was infarcted. A very large atheromatous patch in the abdominal aorta had involved the orifice of a common trunk which supplied the superior mesenteric artery and the cæliac axis, producing complete occlusion. The circulation had been restored and maintained through an extraordinary development of arteries and veins in the omentum, and in adhesions between the upper abdominal viscera and parietes. The principle source of this was the inferior mesenteric artery. The spleen was considerably enlarged (about 16 oz.), and showed a very large infarction of its middle region, and advanced general fibrosis. The splenic artery was obliterated. There had been thrombosis of the portal vein, possibly secondary to the infarction in the spleen, and the circulation had been restored by the development of a mass of cavernous tissue between the root of the mesentery and liver. There was no increase of marrow in the long bones, and that of the ribs appeared to be normal. There was marked atrophy of the kidneys, secondary to arterial disease, and gangrene of both great toes.

Professor Muir thought that Dr. Teacher's account of the causation of the blood change in this case was probably correct. The difficulty was to see how the local venous congestion brought about the polycythæmia. There was in the Museum of the Pathological Department of the Western Infirmary a specimen of a liver which showed much the same condition of thrombosis of the portal vein as Dr. Teacher has described.

II.—THE GRAWITZ TUMOUR OF THE KIDNEY, OR "RENAL HYPERNEPHROMA."

By Dr. J. Shaw Dunn.

Dr. Dunn gave a short account of the Grawitz tumour of the kidney, of which the following is an abstract, and showed museum preparations, microscopic specimens, and lantern illustrations of the condition.

The communication was based on the investigation of eleven tumours of this nature which had been examined in the Pathological Department of the Glasgow Western Infirmary during the past three years. In all except one case the kidneys, with the tumours, had been removed by operation. The symptoms mainly complained of were hæmaturia, abdominal swelling, and pain.

The gross pathological appearances varied considerably; the tumours exhibited varied in diameter from 2 to 7 inches. Some appeared well-encapsuled; others tended to invade renal tissue, and especially to enter the renal veins or the renal pelvis. In the latter case hæmaturia occurred. The colour of the tumours on section was variegated according to the degree of hæmorrhage and necrosis present, but in all cases the well-preserved tumour tissue was of a very characteristic bright opaque yellow, due to presence of fat. Metastatic growths might occur in lung or liver, or in some cases might especially affect bones. One case was shown where the first symptom was a swelling in the right os pubis, which was proved by histological examination to be a metastatic nodule of hypernephroma. The renal tumour was found later on *post-mortem* examination.

The histological features of the tumours were demonstrated microscopically and by lantern slides. The tumour cells were shown to frequently contain abundant fat and doubly-refractive material, and glycogen.

The striking dissimilarity of these to the renal cells had led Grawitz, in 1885, to suppose that these tumours might arise from aberrant portions of suprarenal tissue under the capsule of the kidney. This view of the origin of the tumours had held the field for more than twenty-five years. Recently it had been shown, especially by Stoerk, that in cirrhotic kidneys certain areas of renal tissue might undergo metaplasia, with production of cell-characters resembling those in Grawitz tumours. This was confirmed by Dr. Dunn's own observations, and he inclined to regard the Grawitz tumour as a true cancer of renal tissue, probably growing from the altered renal epithelium lining minute cysts in senile or cirrhotic kidneys.

Dr. Munro Kerr said he had operated on two of the cases whose excised kidneys were shown by Dr. Dunn. In both cases the tumours had occurred during pregnancy, and had been recognised as renal tumours. They were not associated with pain, or with blood in the urine. Their removal was simple, and was done through the abdomen. There were no gross evidences of malignancy in the growths. Both patients recovered. One lived for over a year, and then died of a lobar pneumonia on the sixth or seventh day of the disease. The doctor in attendance regarded it as a typical lobar pneumonia, and did not think it was metastatic. The second case was still alive, and had come successfully through a pregnancy since.

Dr. Roy Young asked Dr. Dunn what had been the result of operation in the cases referred to.

Dr. Dunn said that in one case death had occurred within a year; in another within six months, with metastases in liver and lungs; two others had died shortly after operation; another was still alive. He regarded the chances of recurrence as great. Where there was breaking through of the capsule of the kidney by the tumour tissue, and especially where there was invasion of the renal vein, there was every likelihood of rapid extension by metastasis.

Professor Muir referred to the excellent work Dr. Dunn had carried out in this investigation.

Mr. Arch. Young referred to two cases which he had reported. One had died in a late stage of hypernephroma, with metastases in the vertebral column and other places. In the other case there was a tumour of the tibia, and there had on several occasions been hæmaturia.

Dr. Dunn saw no sufficient reason for regarding these tumours as endotheliomata. The connection between the cells of the renal tubules and the cells which formed the tumour could sometimes be quite well traced.

III.—PLASTIC SKIAGRAPHY.

By Dr. J. R. Riddell.

Dr. Riddell showed a series of negatives and lantern slides illustrative of plastic skiagraphy.

IV.—AN UNUSUAL TUMOUR OF THE BICEPS MUSCLE.

By Dr. W. F. Gibb.

Dr. Gibb, in reporting further on the tumour of the biceps muscle described at last meeting, submitted the following note by Dr. Joshua Ferguson on the histological findings, and microscopical sections from the tumour made by Dr. Ferguson:—

"The tumour may be termed fibro-angeioma. It is composed of large numbers of capillary vessels, surrounded generally by a small amount of fibrous tissue. In parts, however, fibrous tissue is more extensively developed, and under the higher power may be noticed to occupy the whole microscopic field. The growth spreads diffusely amongst striated muscle bundles, and in the fat. The striated muscle bundles are not embryonic, but are well developed. In certain portions endothelium is very well defined, but it gives no appearance of proliferation, and certainly no justification for the designation of endo- or peri-thelioma."

Dr. Gibb also showed sections from a tumour of allied character removed recently from the fore-arm, and submitted the following pathological report by Dr. Ferguson.

"This is apparently an angeiomatous growth which is becoming degenerate and inflamed. It consists of fat and fibrous tissue, with numbers of widely dilated blood-vessels. Many of the blood-vessels are thrombosed. There are numerous areas of leucocytes around the vessels, and in many cases the thrombus has been invaded by them. In no part of the tumour is there any indication of sarcomatous elements."

OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Session 1912-1913.

Meeting IV.—29th January, 1913.

The President, Dr. John Lindsay, *in the Chair.*

I.—FRESH SPECIMENS.

A. By Dr. G. Balfour Marshall.

1. Intramural uterine fibroid.
2. Uterus with fibroids; the tumours had burrowed into both broad ligaments.
3. Fibroid from left broad ligament.
4. Ovarian cystoma.
5. Fibroid with double salpingo-oöphoritis.
6. Bilateral salpingo-oöphoritis.
7. Parovarian cyst with torsion of pedicle.

B. By Professor J. M. Munro Kerr.

1. Extra-uterine pregnancy, showing process of tubal abortion.
2. Bilateral malignant ovarian tumours.
3. Adenocarcinoma of uterus.

C. By Dr. A. W. Russell.

1. Multilocular ovarian cyst of left ovary; the right ovary had been removed for a similar condition eight months previously.

2. Œdematous fibroma of ovary; tumour had been present two years, but caused no pain.

D. By Dr. W. D. Macfarlane.

1. Melanotic carcinoma of vulva; excision of growth and glands had been carried out.
2. Double ovarian dermoids.
3. Multiple fibroids in pregnant uterus.

E. By Dr. David Shannon.

1. Ovarian cyst.
2. Cancer of right ovary with peritonitis.

F. By Dr. Louise M'Ilroy.

A bilobed placenta with velamentous attachment of cord and area of infarction.

II.—CASE OF MALDEVELOPMENT.

By Dr. G. Balfour Marshall.

Dr. Marshall recorded a case of maldevelopment, showing a dystoptic (pelvic) left kidney; absence of vagina; presence of Müller's ducts, the right showing a cornuate small uterus; both ovaries were present; and a right Fallopian tube. A drawing of the condition was exhibited. The history was that menstrual molimina had not been present, and she was sent on account of amenorrhœa and a swelling in the pelvis. Permission was given for an exploratory operation. It was seen that the tumour lay in the left side of the pelvis; the left iliac artery passed above the upper pole of the kidney, and the pelvic colon covered it; the rectum lay close to the inner border. Large renal vessels were seen passing under the meso-sigmoid. The kidney was fixed, immovable, and covered by vascular peritoneum; the ureter was short. The ovaries lay along the edge of the psoas muscle, ½ inch from internal abdominal ring. The inguino-genital ligament was seen passing from anterior pole of left ovary into inguinal canal. A crescentic band ran across the pelvis, evidently representing Müller's ducts; and on the right side a thickened spindle-shaped swelling, an inch and a half long, was present —a rudimentary uterine horn; the right Fallopian tube ended in a fimbriated extremity, projecting free into peritoneal cavity; and a well-marked fimbria ovarica was present.

III.—ARTIFICIAL VAGINA: A REVIEW OF THE VARIOUS OPERATIVE PROCEDURES FOR CORRECTING ATRESIA VAGINÆ.

By Dr. G. Balfour Marshall.

Dr. Marshall pointed out that the condition is rare, but of interest in view of the recent advances made in the operative technique, with the object of producing an artificial vagina which will not contract. Two distinct types are recognised—

1. Where the uterus is present, including both the so-called congenital cases which, according to Nagel and Veit, are not developmental but due to inflammatory processes, with following adhesions of the vaginal walls in early infancy, and cases due to traumatism at childbirth.
2. True congenital atresia without the uterus being present.

Dr. Marshall gave a general description of the historical views and operations, dating from Haen (1761) to present time. He quoted cases to show that pregnancy may follow the formation of an artificial vagina, and gave the opinions of different operators regarding the justification or otherwise of performing operations merely to give a coitional vagina when the uterus is absent. He described the operations performed at different times for the condition.

1. The simple splitting of the recto-vesical septum, which was so fatal that leading French surgeons in last century advised against its performance.
2. Plastic operations, dating from Heppner (1872)—(*a*) transplanting of skin flaps or epithelial growths; (*b*) transplantation of vaginal flaps taken from cases operated on for prolapse; (*c*) implantation of pieces of peritoneum; (*d*) implanting bowel mucosa.
3. Suture of uterine cervix to vulvar orifice after opening septum (Martin).
4. Combined abdomino-vaginal operation (Pfannensteil). Cervix freed by laparotomy after partly opening recto-vesical septum from below; the abdomen is then closed, and cervix

pulled down and attached to vulvar orifice or mucosa of vaginal rudiment.

5. Formation of artificial vagina by making use of segment of resected bowel. Sneguireff first recorded, in 1904, three cases operated on by his method of transplanting the rectum; but the operation is objectionable, because a sacral anus is left. This operation was improved by Popoff and Schubert. The latest phase of this operation is the procedure of Baldwin, of America, who transplants a segment of ilium. So far, twelve cases by Baldwin's method have been done, and four by Mori's method, which differs from Baldwin's in that a single stretch of bowel is implanted instead of a double loop.

Professor Munro Kerr discussed Dr. Marshall's paper, and mentioned a case of atresia where he had operated by Baldwin's method.

IV.—A METHOD OF RADICAL REMOVAL OF THE CANCEROUS UTERUS.

By Dr. Alex. MacLennan.

The main features of the operation are as follows;—

Preliminary curettage three days before the main operation, which is carried out abdominally. The bifurcation of the iliac artery is identified; the peritoneum caught up in this region and incised. The ovarian and anterior division of internal iliac arteries are tied. The ureter is followed into the pelvis, and, if it pass into diseased tissue, it is divided and implanted into bladder. The peritoneum is divided parallel with the ureter, and across the front of the uterus to the opposite side. The broad ligaments are separated, and the lateral aspect of the pelvis cleared. The peritoneum behind the broad ligaments is stripped from Douglas' pouch. The pelvic contents are detached by a digging process and pressed downward. The uterus is separated from the bladder and the vagina divided, and the whole mass is packed into the pelvis, the loose peritoneum and sigmoid stitched so as to shut off the peritoneal cavity. The patient is then placed in the lithotomy position, and the parts removed from below. The cavity is packed with gauze, afterwards gradually removed.

The paper was discussed by *Dr. Balfour Marshall* and *Mr. Duff.*

REVIEWS.

The Disorders of Post-Natal Growth and Development. By HASTINGS GILFORD, F.R.C.S. London: Adlard & Son. 1911.

CHAOS in the classification of disease, and the common opinion that at the time of birth development ceases abruptly, have prompted Mr. Hastings Gilford to expound this new pathology, which, in addition to replacing confusion by order, demonstrates that most of the maladies to which we are subject are disorders of growth and development, and that by far the larger number of them do not begin till after birth.

In sustaining his thesis the author marshalls his facts into an orderly sequence, and gradually builds up his argument as follows:—It is first shown that growth is a quantitative process and development qualitative. Development is of two kinds—ontogenetic and phylogenetic, and it is insisted on that the latter manifests itself almost as conspicuously after as before birth. Development is co-terminous with life, and is either progressive or regressive. Regression implies a repetition of progressive phases in reverse order; and the structural changes of senility consist in the return of cells and tissues to their original simplicity. The cells of the body correspond phylogenetically with the divisions of the animal kingdom into cells, primitive organisms, and complex organisms. The rate of development varies in different animals and in different organs of the same animal, is prone to be rhythmic, and is believed to be the reflex of seasonal and other external influences upon post-development. Death, however, is inevitable.

The trinity of nutrition, growth, and development united in health, are separated in disease. Each may be either morbidly defective or excessive; and the morbid results may vary considerably according as isolated cells, organs, or collections of organs are affected. We are not concerned here with diseases of extrinsic origin. The causes of degeneration are alluded to; and then come the distinguishing features of the disorders of post-natal growth and development. In infantilism it is demonstrated that certain stages of development are left out, so that life is shortened rather than prolonged; and that senilism is a true disease, the condition being constituted by the premature senile decay on the one part, and the normal state of the environment on the other.

A disease of growth or development is necessarily a biological process in the first place, for its manifestations (symptoms) are invariably based upon physiological precedents. Its origin cannot be accounted for solely by the influence of toxins or other contemporary causes, but is also dependent on variation, which proceeds from causes in action in remote evolutionary time. The disorders of growth and development, when traced back to their beginnings, are found to be produced by two sets of circumstances—the one contemporary, the other historic or reversionary.

Innocent tumours are regarded as progressive and regressive variations of tissues, and cancers as reversions or regressive variations of cells in their individual capacity. Infantilism of the liver probably accounts for some cases of atrophic cirrhosis or acute yellow atrophy. The cirrhoses of liver, kidneys, arteries, pancreas, and other organs are to be regarded as expressions of a premature senility. Amaurotic family idiocy and dementia præcox are to be explained by senilism consecutive on a premature degeneration. Pernicious anæmia and leukæmia present themselves under two aspects, viz. (1) as a major and (2) as a minor variation. Osteomalacia, osteitis deformans, and arthritis deformans are pre-senile degenerations. Dwarfism, gigantism, obesity, masculinism, feminism, sexual precocity, and centenarianism are all considered as variations. The sexual variety of ateleiosis is shown to closely correspond with our ideas of the short type of palæolithic man. Acromegaly is to be viewed as a reversion to our simian ancestry, a less complete example of the same harking back being presented by normal old age.

It is impossible to convey here anything like an adequate idea of the scope and originality of this remarkable book. New vistas of thought are opened up by its perusal, and few indeed will fail to find, in presence of this master mind, stimulation and encouragement against anæsthetising beliefs. We can imagine no stronger plea for thinking biologically, and we strongly advise all to make themselves acquainted with these "new lichts." Further, it should interest the practical man to learn that much of this work, which he is too apt to imagine can be no more than a ploughing of the sands, has important bearings on treatment. In conclusion, it cannot be sufficiently insisted on, as Mr. Hastings Gilford asserts, that all intrinsic diseases must of necessity be no more than the expression of the common laws of life, and have their springs either in contemporary events or in events that have influenced us in the past. And, if we put on one side bacteria-produced diseases, and group together all those maladies that are independent of, or only partly dependent on, external sources, we find that by far the majority are merely the extremes of normal biological processes.

Fasting in Diabetes. By Dr. G. Guelpa. Translated by F. C. Arnold, B.A., M.B. London: Rebman, Limited. 1912.

Based on a paper by Dr. Guelpa, of Paris, on "Starvation and Purgation in the Relief of Disease," the present book is an effort to show the advantages of the treatment in cases of diabetes, chronic arthritis, gout, and certain other chronic diseases.

Naturally, the questions of auto-intoxication and disintoxication have received much attention of late, and there can be no doubt that treatment on any rational lines must take cognisance of the fact that many pathological conditions are fostered by the continual auto-intoxication which goes on in, at least, the great majority of cases. Briefly, the object aimed at is to "induce the organism by the withholding of food, to burn up, so to speak, its waste, effete, and toxic matters, and to remove the products of this combustion freely and regularly." It is stated that the treatment can be carried out for a period of three days without any hardship or suffering. Dr. Guelpa records cases of diabetic gangrene in which amputation was about to be resorted to, but in which the disintoxication treatment led to an arrest of the gangrenous process, and to recovery of parts already cyanosed and insensible. Notes of an experimental case are given.

Dr. Guelpa points out that, in disease, nature generally takes from us all desire for food. So far this is quite true; but is Dr. Guelpa, in generalising from this particular, not committing a very evident logical fallacy? Besides, in not a few of the chronic diseases this anorexia is absent or little marked.

The treatment is accompanied by saline purgatives, and Dr. Guelpa states that his patients are astonished to find that they do not suffer from hunger during the fasting process; also that in his own case he feels fitter than before "to embark, in good time, on the laborious daily round of a medical practitioner." Courageous practitioners should make a note of this. Dr. Guelpa further regards the fact that the sensation of hunger leaves us after the ingestion of food as a further proof of the correctness of his theory.

A considerable number of cases are quoted by Dr. Guelpa in favour of his theory, and one is left to surmise if he ever saw a case which was unfavourable.

There is no reasonable doubt that in very many cases Dr. Guelpa's disintoxication and fasting treatment must have only good results, but the proof of his theory as applied generally is not complete.

Manual of Operative Surgery. By H. J. Waring, M.S., M.B., B.Sc.Lond., F.R.C.S. London: Henry Frowde and Hodder & Stoughton. 1912.

It does not seem a very long time since we called attention to the excellence of Mr. Waring's work when the third edition was published. The book is evidently popular, and the popularity is well deserved. The new edition is amplified in some parts and judiciously pruned in others. A new feature is the employment of the new International Anatomical Terminology. To many readers this may prove a decided disadvantage, in spite of a complete glossary placed in the beginning of the book. We certainly feel that we will be slow to throw over terms we have known from our professional youth up; we hardly will recognise the musculo-spinal nerve as the "nervous radialis," the serratus magnus as the "serratus anterior," the cotyloid ligament as the "labrum glenoidale," the internal malleolus as the "malleolus medialis." But it is quite proper that scientific language and description should be one and unmistakable all the world over. In the text Mr. Waring, fortunately, takes care that the old terminology is inserted in brackets after the new in most instances, so that misinterpretation is reduced to a minimum.

Another new feature is the free use of skiagraphs to assist in the illustration of operations on bones, as in amputations and excisions in the fingers and hand. This method undoubtedly makes more clear the relation of the skin incision to the section through the bone or through the joint.

The book is issued by the publishers of the Oxford Medical

Publications, and that is a sufficient guarantee of bibliographic excellence. Mr. Waring may be congratulated on the production of a work of sound teaching value, of practical usefulness, and, withal, one which is strictly modern, and that means much in these days of rapid, busy, surgical advance.

Notes on the Treatment of Tuberculosis: Preventive and Curative. By John Laird, L.R.C.P. & S., Ireland. Bristol: John Wright & Sons, Limited, 1912.

Recognising that the open-air treatment has not done what was expected of it, and being much impressed with the great want of confidence shown by his colleagues in the use of medicinal remedies, Dr. Laird has felt it his duty to draw attention to a mixture, which he has himself evolved, and which he is convinced is "almost specific in action" in every variety of tuberculosis. The formula for this elixir is:—

℞.—Sodii iodidi,		ʒss.
Sodii benzoatis,		ʒiii.
Liq. arsenicalis,		ʒss.
Tinct. pulsatillæ,		ʒi.
Tinct. baptisiæ,		ʒiii.
Syr. aurantii,		℥i.
Aq. chloroformi,	ad	℥viii—Misce.

Sig.—ʒi thrice daily for an adult.

In addition, the administration of large quantities of calcium salts is an essential feature of this treatment; and in surgical cases a lint dressing, moistened with a solution of tincture of iodine and covered with oil-silk, is applied. All the cases that Dr. Laird reports not only get well, but keep so.

A Short Practice of Medicine. By Robert A. Fleming, M.A., M.D., F.R.C.P.E., F.R.S.E. Second Edition. London: J. & A. Churchill. 1912.

This text-book, which is now in its second edition, has been made more up-to-date since the publication of the first edition. New paragraphs on kala-azar, gastric neuroses, diseases of the cauda-equina, &c., have been added. In the compilation of a short text-book the chief difficulty is often the power of discrimination as to what should be included and what left out. We consider that, in this respect, the author has used the pruning knife with good judgment.

Looked at from the point of view both of the student and of the general practitioner, it would be carping criticism to lay any charge against the author. The student is assisted in his work of preparation for examinations, and the practitioner will find in the volume valuable suggestions both as to diagnosis and as to treatment.

We confess that we can hardly share with the author the view that the methods of qualitative and quantitative testing of the normal and abnormal constituents of urine and stomach contents, and the description of pulse tracings, with their diagnostic significance, are better omitted in a volume of this nature, and should only be included in a work of clinical medicine; but with this single reservation we can heartily recommend the volume as a valuable addition to the many text-books at our command.

The Practical Medicine Series. Volume II: General Surgery. Edited by DR. JOHN B. MURPHY, of Chicago. 1912.

WE have sincere pleasure in calling attention to the new volume of the Practical Medicine Series on general surgery. It appears to contain everything new that is worth drawing attention to in the surgical literature of the year. The editor's field-glass has roamed widely. But, as might be expected, his own country has come first into focus, and we find that extracts from American surgical literature form a big majority of the contributions. There is a great deal in the book which certainly will never be incorporated in the general practice of surgery, but we do not cavil at that. The object of the whole series is to bring together into comparatively small bulk all the work of importance in the year, to show what is being done, to show the trend of surgical thought and opinion and experiment.

The introductory remarks by the editor are mostly dogmatic sweeping statements, of no value as a review of the year's progress. We venture to think they should be left out, and the actual text left to speak for itself.

In the text we do not find that any important feature of surgical work of the year has been omitted, and we feel we can trust the editor to see that that is so. No man has time to read even the contents pages of all the surgical journals published throughout the world, so the service rendered to us by Dr. Murphy is a very substantial one. We regard the volume as good enough to deserve a place within easy reach of the surgeon's hand when he reads up his work or writes up his case book.

Diseases of the Liver, Gall-Bladder, and Bile-Ducts. By HUMPHRY DAVY ROLLESTON, M.A., M.D.Cantab., F.R.C.P. Illustrated. London: Macmillan & Co. 1912.

IT is now nearly eight years since the first edition of this work appeared, and we remember how much we were impressed by the elaborateness which characterised it, and by the immense industry which it displayed. It was reviewed in terms of high commendation in the *Glasgow Medical Journal* for September, 1905.

The arrangement of the present edition is very similar to that of the former, and it is not necessary to enter into detail with regard to it. The present volume, however, is of a more tasteful appearance than the other, which lies beside us as we write. It is of smaller vertical measurement, and the font of type is one which, to us at anyrate, yields a more pleasing result than the American one, and particularly in the title page and table of contents. The present volume, in addition to more than a hundred figures, contains seven coloured plates. One of these forms the frontispiece now as it did in the original work. The others are illustrative of cirrhosis of the liver, of tuberculous cavities in the liver, of nodular cirrhosis or multiple adenoma, of gall-stones showing spontaneous fracture, and of cholangitic suppuration in the liver. The work concludes with an extensive index. We have pleasure in again recommending it strongly to our readers.

Pathology and Treatment of Diseases of Women. BY PROFESSORS A. MARTIN and PH. JUNG. Translated from the Fourth Edition by HENRY SCHMITZ, M.D. London: Rebman, Limited. 1912.

THIS work is already well known to German readers, and enjoys a popularity which has exhausted three editions.

The book before us is a translation by Professor Henry

Schmitz, of Chicago, of the fourth German edition, which has been rewritten and revised by the authors. It is eminently practical and concisely written, theories and controversial subjects being omitted. The authors have a very extensive knowledge of gynæcological literature, as is shown by the numerous references, but the treatment described is that for which they have a preference.

The great value of the book is from the clinical side, as the views are those of keen observers who have made good use of their very large clinical material, and have the gift of imparting their knowledge and experience to others in a clear and readable manner.

We do not share the translator's enthusiasm that this book "has a number of advantages over similar works" that "make it invaluable to teacher and student," and "to the general practitioner and gynæcologist alike." No book is likely to appeal to all these, and there are many other works both in German and English much better suited for the student.

This book was originally the outcome of post-graduate lectures delivered in Berlin, which shows its scope, and while it should chiefly appeal to the general practitioner interested in gynæcology, we can cordially recommend it to the specialist and teacher.

The only adverse note of critisism we would offer is to the translation, although there are methods of treatment of which many will disapprove, such as the advocacy of the intra-uterine stem and the curettage of the uterus without a previous dilatation of the cervix.

The pleasure of reading is greatly marred by the German style of English, which obtrudes itself to too great an extent, and suggests translation by a German.

"The sound enables a welcome control of the palpating fingers" is not pretty, nor does the unnecessary use of redundant adverbs impart clearness to a sentence. It is, however, a more serious defect when failure to give the correct English equivalent makes the authors state that "the hæmorrhages stop as soon as the uterine wall is scraped off completely," when what is meant is a complete removal by the curette of retained products of conception adhering to the uterine wall.

Should a second American edition be called for, there is room for great improvement in style.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

EDITED BY ROY F. YOUNG, M.B., B.C.

MEDICINE.

Carl Spengler's Views and Methods Regarding Tuberculosis. By Walter H. Fearis (*The British Journal of Tuberculosis*, January, 1913).—The curative action of tuberculin is proportional to the local reaction induced by it, and febrile reaction has little therapeutic value.

Spengler in 1904 first introduced ("P.T.O.") true bovine tubercle bacilli. He found that, in the human, bovine tuberculin had a better curative action and produced less toxic effect than human tuberculin. Human tuberculin can be given at a later period.

The defect of tuberculin lies in its toxicity and in its uselessness in cases unable to respond adequately, hence he has elaborated a curative immunising agent ("I.K.") which is free from these defects. In 1907 Spengler discovered that the red blood cells are the chief seats of generation and accumulation of the tuberculosis immune substances. In rabbits he induces a high bacteriolitic antitoxic immunity against (1) tubercle bacilli, and (2) bacteria causing secondary infection. The immune blood is collected, diluted, and acidified, and the bacteriolitic and antitoxic actions are adjusted. The chief immune substances are lysins, which destroy the bacteria causing tuberculosis and antitoxins, which neutralise the toxins originating from the bacteria. "I.K." does not produce anaphylaxis. The primary action of "I.K." is the production of passive immunity. The resulting neutralised toxins then induce active immunity without causing toxic effects.

"I.K." is thus much safer than tuberculin, being not only atoxic but antitoxic. There are no contra-indications to its use. It acts specially well in renal cases.—Jas. Scott.

The Treatment of Pulmonary Tuberculosis by Artificial Pneumothorax. By J. W. Linnell (*British Journal of Tuberculosis*, January, 1913).—The adoption of the "absolute rest" treatment has proved one of the greatest advances in the treatment of febrile pulmonary tuberculosis. It limits circulation through the diseased area and reduces harmful auto-intoxication, just as does a splint to a diseased joint.

The production of an artificial pneumothorax "splints" the lung. In addition, cavities are collapsed and their contents expressed. Expectoration is diminished, and there is less risk of infection of the larynx and alimentary canal. There are many contra-indications, but he considers that many cases of early unilateral disease might be treated in this way with advantage. A complication of the operation which is liable to occur is tearing of the visceral pleura with the causation of a pneumothorax from within, and consequent danger of pyopneumothorax.—Jas. Scott.

SURGERY.

Coxa Vara: Its Relation to Fractures and Slipped Epiphyses of the Upper Extremity of the Femur (*Revué de Chirurgie*, November, 1912). Abstract of the proceedings of the French Surgical Congress, held at Paris in October, 1912. Leaders of the discussion —M. Froelich, Nancy, and Kirmisson, Paris.

M. Froelich—Coxa vara is an affection of the hip characterised by a lesion of the epiphyseal cartilage, during growth, producing a downward sliding of the head of the femur and with well-marked clinical features.

After a historical *résumé* of the views held on the subject since 1888, when Muller, of Stuttgart, first described the condition, M. Froelich limits his discourse to true static coxa vara, or the coxa vara of adolescence. It is a rare condition, appearing between the ages of 12 and 18, during puberty, and especially found in the male sex (45 cases—39 boys and 9 girls). The condition may be unilateral or bilateral; certain occupations, especially that of tilling the soil, seem to have a bearing on its production.

Clinically its onset is insidious, beginning with occasional pains about the hip or the knee, fleeting pains which disappear with rest, reappear on exertion and are aggravated by the least injury. Locomotion becomes difficult, awkward; fatigue appears soon, certain movements at the hip-joint become limited, and a progressive limp appears. On examination of the patient, standing upright (a tall youth, well built, and with big bones), the affected limb is found adducted, everted, and it may be crossing the sound limb. The limbs are livid in colour and the feet sweat profusely. The great trochanter is more prominent and more highly placed on the affected side. The gluteal fold is lost, and when the patient walks he limps more or less with the dip towards the affected side. When the lesion is bilateral he waddles. When the patient lies down one notes the shortening, 4 to 5 cm., and the amount of external rotation. The faulty attitudes of adduction and eversion can both be exaggerated, whilst abduction and inversion cannot be produced actively or passively. Flexion and extension seem normal, and no pain is produced by the manipulations. One further symptom, when the patient kneels the weak limb crosses behind the sound one. When the condition is bilateral the patient cannot kneel. The chronic evolution of the condition is interrupted by occasional acute exacerbations.

The pathological anatomy of the condition is based on specimens and on radiography. One finds the head of the femur approaching the lesser trochanter while the normal "angle of inclination" (128°) has become a right angle or even an acute angle. The neck presents a forward bulging and can be felt in Scarpa's triangle. It is further twisted round its own axis as if there had been a movement of hyperextension affecting the limb and the trochanteric portion of the neck, whilst the head remained unmoved in the acetabulum. The upper border of the neck appears lengthened and the lower border shortened. The articular cartilage of the head is crowded on to the neck above, whilst below it tends to disappear. The head tends to become sublaxated and the upper part of the neck to form a joint. The epiphyseal line of cartilage is curved, with its convexity towards the acetabulum, and soon loses its continuity. Microscopically, the epiphyseal cartilage is thickened, looks œdematous, and is richer in cells than usual and is markedly vascular. The capsule becomes retracted and the ligaments become shortened and thickened. These findings explain the inability to abduct and to invert the limb.

The pathogeny is not yet settled. It seems agreed that it comes about from overburdening, putting too much strain, during puberty, on a weak neck, or an "insufficient" epiphyseal cartilage; but to what is this "insufficiency" to be attributed? Some attribute it to the physiological changes taking place there with such great activity during puberty. Why, then, do so few cases occur? The same changes are taking place in all.

Sudeck attributes the condition to the lack of development of a crest of bone which normally appears and buttresses up the neck during puberty. M. le Dalmany attributes it to ancestral causes. Others definitely consider the cause pathological. Muller once suggested a late, localised form of rickets; Kocher an osteomalacia of youth. Other suggestions have been atavism, traumatism, lack of some internal secretions, and Froelich first demonstrated staphylococci (albus and aureus) in several cases and put forward the theory of an infection. The fragility of the epiphysis would best accord with this theory.

The *prognosis* is variable; usually the condition progresses slowly, and after a year or two becomes spontaneously arrested. Definite lesions are present before the cases come under observation.

The *diagnosis* is easy and the x-ray photo. proves the lesion to be in the neck of the bone, and excludes—(1) "Symptomatic" coxa vara; (2) Traumatic coxa vara; (3) Rheumatoid arthritis.

The *treatment* aims at preventing the increase of the deformity.

Orthopedic.—Rest in bed; apparatus to take the weight off the joint; massage; electricity; manipulation.

Operation.—Subtrochanteric oblique osteotomy is the simplist and safest procedure.

"Symptomatic" coxa vara is then shortly discussed. These cases are essentially lesions of the trochanter and affect the neck only at its junction with the great trochanter. They may be classed as—

1. Congenital, described by Kirmisson.
2. Rachitic.
3. Coxa vara osteomalacia (Hofmeister).
4. Inflammatory—(*a*) tubercular; (*b*) osteomyelitis; (*c*) arthritis deformans; (*d*) fibrous osteitis (Reklinghausen).
5. Coxa vara from lack of some internal secretion.
6. Those due to a lesion in the central nervous system.
7. Those developing after the reduction of a case of congenital dislocation of the hip.
8. Traumatic.

M. Kirmisson then takes up the discussion on "Traumatic Coxa Vara."

1. It is only in recent years that we have begun to recognise the existence of fractures of the neck of the femur in infancy. We owe the advance to radiography. Their occurrence used to be denied or they were put down as great rarities. Lately numerous cases have been recorded. M. Kirmisson then gave details of five cases, showing that both intra- and extracapsular fractures occurred, and that incomplete fracture, greenstick fracture, and subperiosteal fracture might all be obtained in this region; also impacted fractures.

2. *Slipped epiphysis.*—The condition cannot occur before the fourth year, when the head becomes osseous. It is commonest during adolescence and usually the result of a blow in the region of the hip. The diagnosis as between fracture of the neck and separation at the epiphyseal line is not easy. Hoffa declares that fracture is the rarer condition. M. Kirmisson does not agree, but thinks the conditions tend to overlap, and all should be considered under the heading of fracture.

Symptomatology of hip traumatisms in infants.—A child can walk very soon after a fracture of the hip; sometimes at once, usually after a few days. Fairly free use of the injured limb is quite compatible with a fracture of the neck of the femur. The traumatism producing the fracture is usually very trivial. The diagnosis and the differential diagnosis is best made by radiography.

In "primary traumatic coxa vara" there is a clear connection between the injury received and the end result. The fracture has not been set, or there is vicious union, or the case has not been attended to, &c.

Side by side with this case there is, however, another where, after a lesion has been healed and well healed, some softening takes place in the neighbouring bony tissue and leads to a bending of the neck.

In "secondary traumatic coxa vara" the real lesion seems to be in the neck of the femur, and little can yet be said with certainty about it.

Treatment: 1. *Preventive.*—In all cases of fracture of the neck of the femur and of slipped epiphyses, after a reduction of the deformity, the parts should be immobilised in plaster, keeping the limb well abducted and inverted. Neglected cases should be similarly treated after the parts have been refractured should the case be seen within two months of the accident.

2. *Curative.*—Subtrochanteric oblique osteotomy.

An interesting discussion followed, and opinion seemed to be that "essential coxa vara" was a great rarity, that a few cases might be etiologically rickets, but that the great majority were primarily traumatic, usually a partial slipping (of the epiphysis) at the epiphyseal cartilage, though no clear idea was expressed as to the cause of origin of this condition since it came often without a definite traumatism. Cases were reported where a specific fever or an infective lesion had shortly pre-dated the commencement of the trouble.—W. Rankin.

GYNÆCOLOGY AND OBSTETRICS.

Strangulation of the Anterior Lip of the Cervix by a Pessary.—Vogt, of Dresden (*Zentr. f. Gynäkol.*, 28th December, 1912) reports a case from the practice of Prochownick, of Hamburg, in which a woman, aged 32, was delivered by forceps, and suffered a severe tear of the cervix. Later, she was treated for a retroversion, and the anterior lip was found projecting like a snout beyond the posterior. She was treated with a pessary, which was cleansed every two months. Suddenly she suffered from hæmorrhagic discharges, accompanied by severe pain and some fever. The anterior lip was found strangulated in the lumen of the pessary, which could not be removed till after amputation of the œdematous lip of the cervix.

Vogt mentions four similar cases found in the literature of the subject. In a case recorded by Wiener the whole portio vaginalis of the cervix became gangrenous. Vogt next relates a case somewhat similar to that first described, as only the anterior lip was incarcerated. In this case it was removed without amputation; the inner diameter of the pessary was 2 cm.

—E. H. L. Oliphant.

Report on the Surgery of the Peritoneum.—Macnaughton-Jones (*Dublin Journal of Medical Science*, November, 1912) publishes this report, read before the Sixth International Congress of Obstetrics and Gynæcology in Berlin. He had collected information as to methods from seventy-one British operators. Many opinions, of course, were obtained, but there was a general consensus as to postponement of operation in the face of local septic conditions, extreme anæmia, and of prolonged hæmorrhage; special attention to the state of the mouth, throat, and nose; thorough evacuation of the bowel; and determination of the condition of the urine.

For preliminary treatment, attention is paid to the sterilisation of the vulva and vagina, especially in cases of cancer. The various antiseptics in common use are enumerated, biniodide of mercury being the one chiefly used for inside the peritoneum, as also for the operator's hands. For the patient's skin iodine holds first place, though Hastings Tweedy, after sterilisation with ether and biniodide in spirit, paints the skin with a saturated spirituous solution of picric acid to cornify the epithelium, and lock the bacteria in the depth of the skin.

The usual theatre practice is described as regards caps and masks, protection of the wound margins, avoidance of handling the parts, and of the use of irritating antiseptics. Two-thirds of the operators use dry methods in the abdomen; some use swabs wrung out of saline solution, and a few still use the animal sponge. Most surgeons seem to have given up the use of *lavage*, unless in exceptional circumstances, though several leave saline solution in the abdomen after operation. There is greater diversity of opinion as regards packing (tamponade), and it must be admitted that it does occasionally act as a source of irritation to the peritoneum, and some reserve it for the deep pelvis. For material, the majority use plain gauze; others, iodoform or bismuth gauze, in some cases surrounded by waterproof cambric.

Drainage is much less used than formerly, possibly because the conditions requiring it are less frequently found with operations performed early. Most surgeons think it involves a risk never to be run except unavoidably. The drainage employed is chiefly rubber tubing, rarely glass, with or without a strip of gauze in the lumen. The direction of the drainage must obviously depend on the character of each case, but, in general terms, septic cases are drained through the vagina by Douglas' pouch, with the patient in the semi-recumbent (Fowler's) position; proctoclysis—the administration of continuous saline by the rectum—greatly assists.

Macnaughton-Jones himself uses catgut for choice, though in bad ventral hernias he has left mattress sutures of silver or bronze wire without bad results.

As to the possibility of infection arising from the proximity of septic patients after operation, only a few cases had been reported, and none in recent years; but a case is mentioned where a house surgeon dressed an erysipelatous patient before assisting at a hysterectomy. The patient died of acute toxæmia in forty-eight hours, and the house surgeon died a few days later of phlegmonous cellulitis of the arm.

Gonorrhœa rarely leads, it is said, to general peritonitis, though, on general principles, where there is acute inflammation, it is best to postpone operation until the acute stage is over; but if operation is imperative, a vaginal drain should be inserted, and great care should be taken not to disturb adhesions.

In the presence of premonitions of peritonitis he treats by attention to the bowel, by administration of calomel, Fowler's position with proctoclysis, and reopens the abdomen and drains only where this is indicated by the probable presence of pus or serum. Pituitary extract he finds valuable in promoting peristalsis; the stomach is washed out for vomiting, and atropine and morphine are administered, along with stimulants. Vaccines are not in general use, and autogenous vaccines alone seem to be of any benefit.

The whole report gives a good summary of the present practice of British surgeons.—E. H. L. O.

PATHOLOGY.

The Occurrence of Virulent Tubercle Bacilli in the Blood after Diagnostic Tuberculin Injections. By Dr. Bacmeister (*Münch. Med. Wochenschrift*, 18th February, 1913).—In the first part of his paper the author criticises the results obtained by the method of Staübli and Schnitter for demonstrating tubercle bacilli in the circulating blood. This method consists of laking the blood sample by addition of 3 per cent acetic acid, and dissolving the sediment of stromata in antiformin; the resulting fluid is centrifugalised, and the small sediment so obtained is examined microscopically for tubercle bacilli.

If this procedure is carried out, acid-fast bodies, indistinguishable from tubercle bacilli, may be found in the blood, not only in cases of actively progressing tuberculosis, but also in the very earliest phases and in latent cases. However, inoculation of guinea-pigs with blood of such early or latent cases is generally attended with negative result, and Bacmeister doubts if the acid-fast structures obtained by the antiformin method are really tubercle bacilli. He finds that similar bodies may be obtained by this method from the blood of men or animals which are not tuberculous.

Experiments recorded in the second part of the paper confirm these observations. The blood of fifteen cases of early phthisis was examined for tubercle bacilli, first by the antiformin method, and in each case with positive result—that is to say, acid-fast bodies, morphologically indistinguishable from tubercle bacilli, were present in films from the sediments. Samples of blood from each case were then injected into guinea-pigs, but none of these animals showed any evidence of tuberculosis when examined three months later.

A diagnostic dose of old tuberculin was then given to each patient, and, when the reaction was at its height, blood was drawn off and animals were inoculated. As a result, tuberculosis developed in four of these animals. Bacmeister is of opinion that in these four cases virulent tubercle bacilli were thrown into the circulation as a result of the injection of tuberculin. No untoward sequelæ occurred in any of the patients, however.

—John Shaw Dunn.

The Demonstration of Tubercle Bacilli in the Circulating Blood. By Dr. Edward Khan (*Münch. Med. Wochenschrift*, 18th February, 1913).—In view of the discrepancies in results of the antiformin method on the one hand and animal circulation on the other in demonstrating tubercle bacilli in the circulation, Kahn has carried out experiments on tubercle-free blood from a horse. He found that the stromata of the red corpuscles were, to a considerable extent, acid-fast. Further, after they were treated with antiformin, the sediment contained acid-fast bodies which in size, shape, and staining were indistinguishable from tubercle bacilli. These appeared to be artefacts of lipoid nature elaborated from the stromata by chemical action. Every precaution had been taken to preclude the accidental intrusion of genuine tubercle bacilli.

The author concludes that only results of animal inoculation can be relied on for demonstration of the genuine bacilli in the blood of suspected cases.

—John Shaw Dunn.

The Chronic Leucocytoses of the Cerebro-Spinal Fluid in Syphilitics. By M. A. Sezary (*Gazette des Hôpitaux*, 22nd October, 1912).—The frequent occurrence of meningeal reaction during the course of syphilis is well recognised. In the secondary stage lumbar puncture, even in the absence of meningeal symptoms, shows the presence of a leucocytosis in at least a proportion of the cases, while at a later period, when certain nervous lesions such as gummatous meningitis or the parasyphilitic phenomena have supervened, a cellular reaction is again found. In a certain number of cases this cerebro-spinal leucocytosis is transient, disappearing after a few weeks, either spontaneously or as the result of treatment, but in other cases it persists for months or years, with or without numerical fluctuations. It is these chronic varieties which are discussed in the present communication, and of them the author recognises five distinct groups.

1. *Chronic latent leucocytosis of the secondary period.*—The presence of such a lesion has only recently been noted. It occurs during the period of the secondary skin eruption and mucous lesions, but is quite independent of them in its evolution, and may persist long after they have disappeared. If well marked it resists mercurial treatment, and is difficult of cure even with salvarsan. It is, however, curable by energetic treatment. Although dependent on a true meningitis in the histological sense of the term, it does not manifest itself by any characteristic symptom. Indeed, it may be quite latent and only discovered after lumbar puncture.

2. *Chronic syphilitic leucocytosis of the tertiary period.*—This is dependent on

the chronic meningitis which nearly always accompanies localised tertiary (sclero-gummatous) lesions of the central nervous system. In most cases it may be completely cured by appropriate treatment. If not, it gradually merges into the next group.

3. *Residual or metasyphilitic leucocytosis.*—This is an incurable cerebro-spinal lymphocytosis occasionally associated with old cicatrised syphilitic lesions of the nervous system. It is not necessarily of itself a syphilitic manifestation, and it may be dependent on a quite localised patch of chronic meningitis in the neighbourhood of an old syphilitic scar.

4. *Parasyphilitic leucocytosis.*—This is the constant accompaniment of tabes and general paralysis. The lesion is incurable, but varies in intensity from time to time. It is closely related to Class 3, but the affection of the nervous system is here a progressive one.

5. *Incurable isolated leucocytosis.*—This group includes cases of cerebro-spinal lymphocytosis which occur during the late stages of syphilis, but are neither consequent on a definite tertiary nervous lesion nor associated (at anyrate at first) with the parasyphilitic phenomena. General paralysis may make its appearance later, and in the other cases there may be a cicatrising lesion which has been devoid of symptoms.

In general, then, the five varieties of chronic cerebro-spinal leucocytosis met with in syphilis are divisible into two main groups—*A*, those which are truly syphilitic, and which are curable by appropriate treatment, viz., Classes 1 and 2; and *B*, those incurable ones (Classes 3, 4, and 5) which are really irritative in nature. The author recognises a definite relationship between the members of the two groups of cases. The residual or metasyphilitic leucocytosis (Class 3) obviously follows the tertiary syphilitic leucocytosis (Class 2) in the absence of proper treatment. Similarly, the parasyphilitic leucocytosis (Class 4) succeeds the chronic latent leucocytosis of the secondary period (Class 1). The sole means of distinguishing the two groups of cases—the curable and the incurable—is by observing the effect of treatment on the cell-content of the cerebro-spinal fluid. The cytological formula affords no useful indication, and Wassermann's reaction only serves to demonstrate the syphilitic pathogenesis common to both groups. The treatment itself ought to be controlled by the result of lumbar puncture. If there is evidence that the case is of the curable variety, active antisyphilitic treatment is to be continued. If, however, there is no diminution in the leucocytosis at the end of a month or two, it is useless to continue the treatment, at anyrate with any degree of vigour. In such cases it may be not only useless, but dangerous. Be it noted, however, that inefficiency of treatment is not to be allowed to weight the prognosis unduly. This is to be determined rather by the nature of the nervous lesion.—MATTHEW J. STEWART.

Books, Pamphlets, &c., Received.

Diseases of Women, a Clinical Guide to their Diagnosis and Treatment, by George Ernest Herman, M.B., F.R.C.P.Lond., F.R.C.S.Eng. Enlarged edition, revised by the Author, assisted by R. Drummond Maxwell, M.D.Lond., F.R.C.S.Eng. With 8 colour plates and 292 figures in the text. London: Cassell & Co., Limited. 1913. (25s.)

Text-Book of Ophthalmology, in the form of Clinical Lectures, by Paul Rolmer. Translated by Dr. Mathias Lanckton Foster. Vol. II. With 186 illustrations in the text and 13 coloured plates. London: Rebman, Limited. 1913. (10s. 6d. net.)

London Medical Publications: Minor Surgery, by Leonard A. Bidwell, F.R.C.S. Second edition, revised and enlarged. With 129 illustrations. London: Henry Frowde and Hodder & Stoughton. 1913. (10s. 6d. net.)

Lateral Curvature of the Spine and Round Shoulders, by Robert W. Lovett, M.D. Second edition, revised and enlarged. With 171 illustrations. London: Rebman, Limited. 1912. (7s. 6d. net.)

Human Embryology and Morphology, by Arthur Keith, M.D., LL.D.Aber., F.R.C.S.Eng. Third edition, revised and enlarged, illustrated with 442 figures in the text, of which 126 are new in this edition. London: Edward Arnold. 1913. (15s. net.)

Guy's Hospital Reports. Edited by F. J. Steward, M.S., and Herbert French, M.D. Vol. LXVI, being Vol. LI of the Third Series. London: J. & A. Churchill.

Synopsis of the Laws of the States, Provinces of Canada, Mexico, and Porto Rico, with Instructions for taking Depositions, the Execution and Acknowledgment of Deeds, Wills, and a Synopsis of Patent Laws; a List of United States Consuls. Times for holding State and United States Courts, &c., for the year. Cambridge: H. O. Houghton & Co. 1913.

Glycosuria and Allied Conditions, by P. J. Cammidge, M.D.Lond. London: Edward Arnold. 1913. (16s. net.)

Building a Profitable Practice, being a Text-Book on Medical Economics, by Thomas F. Reilly, M.S., M.D. London: J. B. Lippincott Company. 1913. (10s. 6d. net.)

The Surgery of the Stomach, a Handbook of Diagnosis and Treatment, by Herbert J. Paterson, M.A., M.C., M.B.Cantab., F.R.C.S.Lond. With plates. London: James Nisbet & Co., Limited. 1913. (12s. 6d. net.)

Transactions of the American Surgical Association. Vol. XXX. Edited by Archibald MacLaren, M.D. Philadelphia: William J. Dornan. 1912.

Diabetes: Its Pathological Physiology, by John J. R. MacLeod, M.B., Ch.B., D.P.H. London: Edward Arnold. 1913. (7s. 6d. net.)

Malingering and Feigned Sickness, by Sir John Collie, M.D., J.P., assisted by Arthur H. Spicer, M.D. B.S.Lond., D.P.H. Illustrated. London: Edward Arnold. 1913. (10s. 6d. net.)

Chloride of Lime in Sanitation, by Albert H. Hooker. London: Chapman & Hall, Limited. 1913.

Tabular Diagnosis: An Aid to the Rapid Differential Diagnosis of Diseases, by Ralph Winnington Leftwich, M.D. London: Edward Arnold. 1913.

A Short Practice of Midwifery: Embodying the Treatment adopted in the Rotunda Hospital, Dublin, by Henry Jellett, B.A., M.D.Dub. Univ. With a Preface by Sir W. J. Smyly, M.D., F.R.C.P.I. Sixth edition. Revised. With 4 coloured plates and 207 illustrations, and an Appendix containing the Statistics of the Hospital for the last twenty-two years. London: J. & A. Churchill. 1913. (10s. 6d.)

Lectures on Diseases of Children, by Robert Hutchison, M.D., F.R.C.P. Third edition. London: Edward Arnold. 1913.

Electro-Therapeutics for Practitioners: Being Essays on some Useful Forms of Electrical Apparatus, and on some Diseases which are Amenable to Electrical Treatment, by Francis Howard Humphris. Illustrated. London: Edward Arnold. 1913. (8s. 6d. net.)

Vicious Circles in Disease, by Jamieson B. Hurry, M.A., M.D.Cantab. With illustrations. Second and enlarged edition. London: J. & A. Churchill. 1913. (7s. 6d. net.)

Retinoscopy (or Shadow Test) in the Determination of Refraction at One Meter Distance, with the Plain Mirror, by James Thorington, A.M., M.D. Sixth edition, revised and enlarged, 61 illustrations, 10 of which are coloured. London: Rebman, Limited. 1912. (4s. 6d. net.)

Modern Wound Treatment and the Conduct of an Operation, by Sir George T. Beatson, K.C.B., B.A.Cantab., M.D.Edin. Edinburgh: E. & S. Livingstone. 1913. (2s. net.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FIVE WEEKS ENDED 22ND MARCH, 1913.

	Week ending				
	Feb. 22.	Mar. 1.	Mar. 8.	Mar. 15.	Mar. 22.
Mean temperature, . .	37·5°	42·0°	42·9°	41·8°	39·2°
Mean range of temperature between highest and lowest,	9·1°	9·4°	11·8°	10·5°	11·6°
Number of days on which rain fell, ...	0	5	7	7	4
Amount of rainfall, . ins.	0·00	0·26	1·50	0·98	1·22
Deaths registered, . . .	392	422	420	404	378
Death-rates, ...	19·8	21·7	21·8	20·6	19·5
Zymotic death-rates, . .	2·2	2·5	2·0	2·7	2·1
Pulmonary death-rates, .	6·4	6·6	6·7	4·3	4·4
DEATHS—					
Under 1 year, ...	77	69	77	75	81
60 years and upwards, .	103	120	124	113	89
DEATHS FROM—					
Small-pox, ...	...	...	...	...	...
Measles, ...	3	4	3	6	4
Scarlet fever, ...	1	2	1	3	3
Diphtheria, ...	4	2	7	4	1
Whooping-cough, . .	37	41	30	39	33
Enteric fever, ...	1	2	1	...	...
Cerebro-spinal fever, . .	...	1	3	1	...
Diarrhœa (under 2 years of age),	4	3	8	7	8
Bronchitis, pneumonia, and pleurisy, ...	81	97	92	74	78
CASES REPORTED—					
Small-pox, ...	...	...	...	...	...
Cerebro-spinal meningitis, .	...	1	1	...	3
Diphtheria and membranous croup, ...	31	35	41	47	48
Erysipelas, ...	28	31	26	24	22
Scarlet fever, ...	69	59	59	56	37
Typhus fever, ...	...	...	...	...	7
Enteric fever, ...	2	3	7	...	2
Phthisis, ...	72	72	66	79	51
Puerperal fever, . . .	4	1	3	5	4
Measles,*	263	233	232	335	278

* Measles not notifiable.

SANITARY CHAMBERS,
GLASGOW, 28*th March*, 1913.

THE

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ORIGINAL ARTICLES.

THE PASSING OF TUBERCULOSIS.[1]

By Sir ROBERT W. PHILIP, M.A., M.D., F.R.C.P.E., F.R.S.E.,
Honorary President, Glasgow Southern Medical Society.

Mr. President and Gentlemen,—Will you allow me at the outset to offer you my sincere thanks for the gracious thought which has led you to include me in your membership? It is a high distinction to be asked to occupy the place of Honorary President to a Society such as yours. I appreciate the honour greatly and shall not forget your kindness. It is the more agreeable as it chances I was born within little more than a mile of your headquarters. Although most of my life has been spent elsewhere, your invitation has recalled tender memories of the first eight years.

In thinking of a subject worthy of your attention to-night, several of the varied aspects of tuberculosis naturally suggested themselves. It was my wish to choose a theme whose scope would be sufficiently wide to combine the interests of the many departments of medicine embraced in your membership. This seemed to preclude limitation to the detailed discussion of particular divisions of the subject which, interesting as they might be to some of us, might be tiresome to the rest.

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[1] Presidential address delivered to the Glasgow Southern Medical Society on 20th March, 1913.

In inviting your attention to what I have ventured to describe as the "Passing of Tuberculosis," it is not my purpose to indulge in vague generalities or the expression of pious hopes. I ask you to look at actual facts—the extraordinary development of pathological knowledge and of therapeutic and preventive procedure within recent years —and consider *whither* these are certainly leading. The pessimism of the past regarding tuberculosis was the expression of ignorance and disappointment. The optimism which is reflected in the title of this address finds its justification in tangible evidence. Those of us who have lived through the gloomy period of pessimism are best able to appreciate the extent of the optimism implied in "the passing of tuberculosis."

The subject is before the profession and the country as it has never been before. The problem of tuberculosis is developing rapidly. Every practitioner must consider and must pass judgment regarding many of the issues. If I am right in believing that we are within sight of "the passing," none of us can remain mere spectators.

RETROSPECTIVE.

It requires little more than a casual glance to catch the impression that we are emerging from what may be described fitly as the dead period in relation to the disease. The profession and the public are now handling the matter as one of the live problems of the hour. This is an extraordinary change.

I remember well on my return from a term of study on the Continent in 1883 to take up a University post the surprise with which a respected professor in the Medical Faculty greeted my reply to his enquiry regarding plans for original work. When I informed him that in view of the discovery of the tubercle bacillus announced a few months previously I proposed to devote myself to tuberculosis, his blunt rejoinder was, "Don't think of such a thing. Phthisis is worn to a very thin thread. The subject is exhausted."

My experience was similar in 1887, when, as the outcome of laboratory observation and clinical work, the conclusion had been forced on me that concerted activity on a large scale would be needed in every community if the problem was to be tackled effectively. It seemed clear that, if a sound programme, based on scientific facts and accumulating statistical evidence, were undertaken, the extinction of tuberculosis was possible to the community and the world. But when, convinced in my own mind, I ventured to approach certain civic and medical authorities with the proposal that the occasion of Queen Victoria's Jubilee should be utilised for the inauguration of a movement towards this end, a very wet blanket was thrown on the project. The city authorities said they had in view a scheme for sending sufferers from chronic disease, including cancer and consumption, to cottages in the country.

A leading university light went further and reproved me for the folly of proposing to treat consumption hopefully in such a climate. "When you tell me you have discovered how to get rid of the east wind and Scottish haar, I shall believe you may be trusted to do something to remove consumption which is the special curse of our *climate.*"

The want of knowledge and corresponding limitation of view was most natural at the time. Mediæval opinion dies hard. Even yet it crops out from time to time. Public references are still frequent to the appalling incidence and mortality of what is described as the national scourge. Yet, what are the facts? Thanks to a variety of causes, as this audience knows well, Great Britain, far from being the pest-ridden region which such allusions might imply, has for long had the lowest death-rate from tuberculosis of the larger European countries.

One other historical reference. When I had been foolhardy enough at a public meeting in 1890 to press for the inclusion of pulmonary tuberculosis in the list of notifiable diseases, I was stopped in the street a day or two afterwards by a well-known sanitarian, who advised me in a fatherly fashion not to run my head against a stone wall. And a few years later, when the proposal was similarly broached at a health congress, an attempt was made to turn the laugh against me by the remark that the suggestion meant simply the notification of spitting in public places.

The dead period in relation to tuberculosis has lasted since the beginning of time. The race for the most part grew up with the notion that consumption or phthisis was an unresolvable riddle, and that an annual leakage from the disease had to be accepted as inevitable. The extent of the leakage was unknown. It was little dreamt that the occurrence of the disease was due to causes which were largely in our hands, and that the classic syndrome of the final stages of the disease, so graphically portrayed by successive generations of clinical artists, was chiefly the result of misapprehension and misdirection of therapeutic measures. The idea of tuberculosis as a blight brought on the fair face of humanity by conditions within the control of man remained unconceived. The poet sighed for a return of a Golden Age, when Heaven itself would intervene and remove the curse from mankind. Here and there a seer essayed to depict, and a prophet to lament, the fateful link which man himself was constantly forging between himself and the disease. But the seer and the prophet were ignored or lightly spoken of by the learned world as dreamers of dreams.

It is impossible on the present occasion to refer in detail to the light that appeared before the dawn in this and other countries. The facts of the laboratory during half a generation prior to 1882 are known to you. Equally well known is the great development which took place in the recognition of physiological principles in relation to the housing of our people and the problems of sanitation. Nor need I dwell on the actual dawn when Robert Koch, in 1882, announced to the Physiological Society of Berlin that he had succeeded in isolating the actual morbific factor—the tubercle bacillus—by means of which tuberculosis could be induced in the healthiest animal, and without which there could be no tuberculosis.

We are chiefly concerned to-night with the extraordinary *volte-face* which has resulted since that discovery was announced, and the marvellous strides in pathology, therapeutics, and preventive medicine which have been effected. The whole outlook on the problem has changed. Ignorance has given place to exact knowledge, and helplessness to a systematised therapeusis and a statesmanlike scheme of prevention.

Review for a moment the pathological and clinical position of former days—the contending opinions and oscillation of view as to the anatomical basis of the disease. You will agree with me that fifty years ago we were not much further forward in respect of the ultimate meaning and course of tuberculosis than Hippocrates himself. The classic description of the clinical features of so-called "phthisis"—the pathetic picture of the consumptive's progress downwards—represents little save the terminal effects of the infecting organism.

Most of what are cited as favouring or predisposing conditions in the individual are in reality the misapprehended and misinterpreted effects of invasion already accomplished, while some of the later manifestations are expressions not so much of the disease itself as of lack of understanding and consequent error on the physician's part.

WIDENING PATHOLOGICAL OUTLOOK.

Let me invite you to brush aside these older notions, and, in the light of advancing pathology, to reconstruct the conception of what tuberculosis really is.

We may premise, then, that tuberculosis is an infective disease due to inoculation with the tubercle bacillus. Let us go a step further, and here the analogy with syphilis will prove helpful. Tuberculosis is induced, like syphilis, through the entrance into the system of the specific organism. The point of entrance may be theoretically anywhere—either a cutaneous or mucous surface. Both in tuberculosis and in syphilis there are certain more common sites of inoculation. In the case of tubercle, the mucous surface is more frequently infected than the skin, although I am inclined to think that the cutaneous structures are primarily affected oftener than is usually supposed.

We may restrict ourselves for the moment to the mucous surface. Although the point of inoculation may be anywhere, certain localities seem to be more readily invaded. While any point, from the lips down to the anal orifice in the tract, and from the nostril to the ultimate alveolus in the other, is liable to attack, I would lay stress on the posterior nares, the faucial, and the tonsillar region as being especially vulnerable.

Whether inoculation occurs in that region, or in the intestine, or in the larynx, or in the bronchiole, matters relatively little for our present purpose. The significant fact is that successful inoculation may be accompanied by little, if any, local change. The surface of the mucous membrane may appear intact even to the critical examination of the histologist. This is specially likely when infection has taken place—as it frequently does—during the tender period of developing childhood. At that date the mucous surfaces are more absorbent and succulent. This explains the great frequency of infection, and likewise the limited evidence of surface lesion.

Tuberculosis has this, then, in common with syphilis, that there is a definite, if not always traceable, point of entrance of the invading organism. It differs from syphilis in the fact that the disturbance at the seat of inoculation is generally slight and more transient. When inoculation takes place through the skin, the local manifestations are more evident and lasting. In such cases the primary sore may be a conspicuous feature, as in syphilis.

At whatever point inoculation has occurred, whether through mucous membrane or skin, the further course consists, for the most part, in a gradual spread by way of the lymphatic system. It is impossible to emphasise this too strongly. First, one or too glands in the neighbourhood of the point of inoculation become enlarged, and then progressively others at a greater distance, and so on. The extent of the spread depends on the degree of resistance which the patient offers. There is evidence which suggests that the glands exert a definitely antagonistic influence.

In speaking of enlargement of glands, I should like it to be clearly understood that I refer not to the enlargement of glands which is characterised by gross deformity with associated caseation and, perhaps, softening, but rather to progressive infiltration in chain after chain of lymphatic glands, so slight in degree that it is for the most part overlooked. I am satisfied that, if the more likely seats of such lymphatic infiltration were scrupulously supervised in childhood and adolescence, the determination of tuberculosis at the lymphatic stage would be a common event.

In respect of the progress of infection from the initial point of inoculation by way of the lymphatic glands, the course of tuberculosis presents further resemblance to that of syphilis. As stress is laid on the presence of glandular enlargement in relation to a possible syphilitic infection, so we ought, I hold, to be similarly suspicious in view of a possible tuberculosis. Persistent glandular enlargement in any area—however slight the degree of enlargement—should not be passed over lightly. In the case of the child and adolescent, persistent enlargement of glands, whether in the cervical, in the axillary, or in the abdominal regions, should be regarded as clinical phenomena calling for definite explanation.

I press the view with all the force of which I am capable, being strongly convinced that it is at the lymphatic stage that tuberculosis ought to be opposed, and that, when thus opposed, its further spread within the system is readily prevented.

The later incidents in the progress of tuberculosis vary much—whether its spread takes place by the lymph streamor the blood current. We are not concerned to-night with details. For the present it matters little whether the infection is carried to bone, or lung, or kidney, or brain. It is to the infective process as a whole that I ask your attention, rather than to particular local or visceral lesions.

It must be constantly in our minds that the chief danger in tuberculosis lies not in the anatomical changes which are produced—whether in lung or in other organ. The significant factor in the process resides rather in the systemic intoxication, which is the necessary outcome of the bacillary invasion. The more important clinical features and the fatal termination, when it occurs, are in greater part referable to such intoxication.

The tuberculous toxins would seem to act especially on neuro-muscular structures. The dystrophic influence is seen in the progressive loss of sarcous substance, and associated enfeeblement, and irritability of muscle. To this, I believe, are referable the early manifestations of motor weakness, both of limbs and of viscera—the feeling of tiredness, the disinclination for effort, the softening pulse, and the gastro-intestinal sluggishness. These are generally in evidence long before cough or expectoration or other indication of local lesion is forthcoming.

Diagnostic Methods.

The clinical manifestations occurring in the course of tuberculosis vary greatly according to the resistance of the individual and the intensity of the virus. It is a commonplace that an individual infected by tuberculosis may for long periods show little evidence of disturbance, general or local. Short of true arrest, the latency of tuberculous infection may be so complete that little, if any, evidence of present disease is determinable. Yet an exacerbation may occur without apparent reason.

These seemingly fortuitous outbreaks have significant bearing on our attitude as scientific physicians. The chief error of the past has lain in too exclusive attention to the local manifestation whether glandular, osseous, pulmonary, laryngeal, renal, intestinal, or cerebro-spinal, while too little thought has been given to the bacillary infection as such. In this sense, the frequently adopted separation between so-called medical and surgical tuberculosis is artificial and unscientific.

The doctor's attitude towards tuberculous infection should be similar to his attitude towards syphilitic infection. The tuberculised individual should be viewed pathologically and therapeutically from the same kind of standpoint as is the syphilitic patient. Each is the subject of a definite systemic infection. The process of tuberculisation, while it differs in numerous respects from that of syphilisation, resembles the latter remarkably, not only in respect of its insidious spread, but likewise in its protean manifestations and tenacious endurance.

If the pathological position be conceded, the first great move towards effective treatment will be the acceptance of—or rather the insistence on—a complete revision of the standard and methods of diagnosis. For the most part the diagnosis of tuberculosis is still made much too late, in respect both of the local or visceral involvement and of systemic disturbance.

The earliest manifestations of tuberculosis must be better defined and studied. Especially does the lymphatic stage require accentuation. The fine multiple enlargement of glands, to which I have alluded, must be searched for. An explanation must be sought for every such infiltrated chain of glands.

Symptoms suggestive of neuro-muscular intoxication must be viewed with suspicion and watched with care. To some of these I have referred already. Of special significance is general muscular dystrophy. It is loss of sarcous tissue, rather than the loss of fat, which is the essential in tuberculous wasting. It is common enough to find patients in an advanced stage of tuberculous intoxication with abundance of adipose tissue. It is loss of muscle which counts.

In respect of visceral—more especially pulmonary—lesions, there is room for much greater refinement of diagnosis than is usually practised or taught.

Bacteriological evidence must not be restricted to the demonstration of the tubercle bacillus. If we wait for the actual appearance of tubercle bacilli in discharges, we wait much too long. This is to delay declaration of war until the troops of the enemy are already evacuating the citadel they have seized and looted. The more recent bacteriological methods — tuberculin tests (cutaneous, sub-cutaneous, percutaneous)—have contributed greatly to ease and exactness of diagnosis. And there are signs that we are within no great distance of more satisfactory serological tests.

The refinement of diagnostic methods within recent years has opened men's eyes to the great frequency of tuberculosis among children. Accumulating experience at the tuberculosis dispensary led me many years ago to institute what I termed the "March-Past" of the infected households. The facts educed by this systematic examination of the community led to the conclusion that tuberculosis was far commoner among children than had been supposed—that indeed tuberculosis was especially a disease of childhood.

My statement a number of years ago, based on clinical methods, that at least 30 per cent of children in my own city were affected with tuberculosis was at first greeted with ill-concealed distrust. Yet the view has been entirely confirmed by bacteriological and pathological observations in different countries.

Such facts have thrown a flood of light on the etiology of tuberculosis. The disease is beginning to receive its proper place as an endemic plague which tends to affect the majority of children, in one shape or another, and the course of which —whether mild or grave—is influenced by numerous factors, both personal and local. The recognition of this truth is of paramount importance to the household and the community. If the principle of the "March-Past" were universally carried out, not merely at the Tuberculosis Dispensary, but likewise in general practice, tuberculosis *in its grosser forms* would disappear.

THERAPEUTIC MEASURES.

Glancing now at the therapeutic side, the change of outlook which has come about is no less remarkable. Tuberculosis has been shown to be most tractable when taken in hand sufficiently early and sufficiently firmly. Who that is familiar with the results of ærotherapy can fail to have remarked the extraordinary change which that treatment has effected on the clinical picture of disease? It is impossible to read those classic masterpieces of clinical portraiture, to which I referred a few minutes ago, alongside tuberculous patients in a well-managed sanatorium, without being profoundly impressed with the transformation.

One illustration must suffice. No feature in the clinical history of the disease was more constantly dwelt on by the old writers than the occurrence of night sweats. Yet night sweating is a non-essential symptom. Under proper conditions of treatment, it need not occur throughout the entire course even of fatal tuberculosis. Although it is my fortune daily to see many types and stages of tuberculous disease, it is now a number of years since I have seen an instance of nights sweats persisting after the adoption of physiological methods.

Thanks to the widening appreciation of such principles in the care of the tuberculous patient, the essential features of the disease have been gradually differentiated from those incidental traits which are referable to faulty measures of protection.

VACCINE-THERAPY. TUBERCULIN.

Turning to direct therapeusis, I invite your brief consideration of the remarkable results of vaccine therapy. Considerable doubt seems still to linger in the minds of many regarding the specific treatment of tuberculosis.

Some of you recall the extraordinary alternation between congratulation and condemnation with which the first announcement of tuberculin was greeted. It so happens that I have employed tuberculin continuously since it was first made available in 1890. My experience in these early days led me to take a favourable view of its possibilities. For that reason, and as the result of accumulating satisfactory experience, I have used tuberculin uninterruptedly up to the present time. The collective records are now very numerous and include a great variety of cases. The net result of the observations is to substantiate the claim of tuberculin to be a specific remedy of great value, provided its employment be undertaken sufficiently early and maintained in properly regulated dosage for a sufficiently long period.

The disappointment and distrust, still voiced in many quarters, seem to me largely due to misinterpretation of the possibilities and consequent misapplication of the remedy, or to lack of perseverance for a sufficient length of time. Too often the test of its value has been limited to its employment in cases where the diagnosis has been concluded comparatively late or even cases beyond the possibility of recovery. In other instances its employment has been interrupted prematurely. A hasty induction has been made and been reflected in general condemnation of tuberculin therapy.

Contrariwise my experience is that, given a case of tuberculous infection at a reasonably early date when the process is limited to the lymphatic system, or a case where, if it has advanced further, visceral involvement is localised and the systemic disturbance relatively slight, the steady, discriminating use of tuberculin generally turns the tide in the patient's favour, and in many cases leads to cure.

Tuberculin is a subject of immediate interest to many of the members of the Society. It may, therefore, serve a useful purpose if I cite briefly a few examples of its employment in different types of tuberculosis. I select advisedly difficult cases, where the outlook was definitely grave, and where, consequently, the therapeutic value of the remedy was put to a severe test.

It seems better not to include cases of pulmonary tuberculosis about which, in the absence of the patient, there might be room for diversity of opinion as to the prognosis. I should say, however, that my results in the treatment of pulmonary tuberculosis have seemed to me no less satisfactory than those which I now cite. The following records refer to tuberculous adenitis, laryngeal tuberculosis, abdominal tuberculosis, and genito-urinary tuberculosis:—

Tuberculous adenitis.—J. T. was admitted to my ward in the Royal Infirmary in March, 1910, on account of great swelling in the neck and intense dyspnœa. There was much cyanosis. The patient was so ill that he had to be carried into the ward.

The history showed that for many months the patient had been troubled with tuberculous adenitis. The cervical glands were much enlarged. He had been operated on three times —once by Mr. Scot Skirving and twice by Mr. Cotterill. There was serious recurrence after each operation. At the date of admission many glands were found involved. There was especially a large mass immediately below the anterior part of the lower jaw. There was a very large mass likewise below the right ear, which extended half-way down to the clavicle, and merged in the other mass in front as already indicated passing round to the left side. In addition to this, there were numerous discrete glands similarly enlarged. The larger masses were firmly matted together with the thickened cervical tissues, and pressed severely on the trachea and other structures. Mr. Cotterill declined to interfere further, and on that account the patient was sent by his employer, a manager of the Royal Infirmary, to the medical side.

Tuberculin was commenced, and continued in progressive doses for six months, and after an interval of three months, for a further period of three months. The first few injections relieved the more urgent symptoms of asphyxiation. Within a few weeks there was striking reduction in the size of the several masses. At the end of six months the neck appeared almost natural. The patient returned to his work about this date, attending the Infirmary as an ambulant patient from time to time for tuberculin treatment.

I saw him a few days ago, when he told me that he had been continuously at work without illness of any kind for the past two and a half years. The chin and neck presented a natural outline. There was hardly a trace of the old trouble, and his general condition was excellent.

Laryngeal tuberculosis.—On 8th November, 1911, Mr. S. D. was seen by me in consultation with Dr. Berry Hart. He was suffering from grave laryngeal tuberculosis.

The laryngoscopic appearances as determined by Dr. J. S. Fraser and myself were as follows:—The right false cord was congested and greatly swollen, so as to obscure the true cord entirely. The surface of the swelling was smooth generally, but stretching backwards from the swelling towards the inter-arytenoid region there was some irregularity of outline, with superficial erosion. The left false cord and true cord seemed normal. Both lungs presented areas of infiltration. There was considerable hoarseness, and some dysphagia. The more urgent symptoms had lasted some five weeks.

Operation for the removal of the diseased tissue either by the endo-laryngeal method or, preferably, by thyrotomy, was suggested. This was opposed by me in favour of treatment by tuberculin. Tuberculin was begun on 15th November, and pursued in progressive dosage until June, 1912.

For two or three weeks little definite change was determined. Subsequently, gradual limitation of the diseased area became evident. At the beginning of March, *i.e.*, after four months' treatment, the posterior end of the true cord became visible. Thereafter the congestion and swelling lessened steadily till the end of May, when the affected areas had practically returned to their normal condition. On the 27th June, 1912, he was examined again by Dr. J. S. Fraser, who reported as follows:—

"I have just seen Mr. S. D., and should like to congratulate you on the result. All I can now find is a very, very slight swelling on the right ventricular band; indeed, had I not been on the look-out for it, I might easily have missed it. The true cord and the ary-epiglottic folds are quite healthy."

Abdominal tuberculosis.—A. S., schoolgirl, aged 11 years, was admitted to my ward in the Royal Infirmary in May, 1908, suffering from abdominal tuberculosis. The abdomen was greatly distended. The fulness was especially conspicuous in the umbilical, hypogastric, right lumbar, and right iliac regions. Palpation revealed the presence of a large mass, of irregular contour and consistence, with deep attachments, and only slightly movable. In addition, smaller masses could be felt to the left of the umbilicus and in the left iliac region. The girl was very thin, so that the greatly swollen abdomen was the more conspicuous. There was no doubt as to the tuberculous nature of the lesion. There was also evidence of pulmonary tuberculosis in the right apex.

After a few days, treatment by tuberculin was begun, the injections being made at first every third day, with gradually increasing dosage. In a month's time improvement was evident. In four months' time the large mass had almost disappeared, and the patient was discharged.

Two months later the patient was re-admitted, as there had been slight recurrence of symptoms. A small round mass, about the size of a mandarin orange, was found to the right of the umbilicus. Tuberculin treatment was recommenced. In the course of two or three months all trace of abdominal disturbance had disappeared.

The patient has become a healthy-looking girl, with all functions natural. I have seen her once or twice a year subsequently, and been unable to trace anything out of the way.

Genito-urinary tuberculosis.—Out of numerous cases available, I cite particularly that of Dr. D. B., who is a colleague of our own, and a trained observer. I give you the history, briefly, as much as possible in his own words:—

"In the early part of 1906, while demonstrator in the University, I began to feel out of sorts—had always a tired feeling, though I continued to play football till the end of March. About the middle of February I noticed that by day I passed urine more frequently than usual. This continued till the end of March, when I went to London to study for an examination. While there, during April the frequency disappeared, but, towards the beginning of June, returned. Blood appeared in the urine at the end of June, and I consulted Professor Caird. Tubercle bacilli were then found in the urine. There was pain on micturition, and on the advice of Professor Wyllie, who saw me in consultation with

Professor Caird, I took urotropine, which somewhat relieved the painful feeling. I gave up work, but the symptoms continued, and in the course of the autumn I began to pass water every hour by day and six or seven times by night.

"The symptoms continuing, I was sent to Cornwall to spend the winter, and felt better; the frequency of micturition being somewhat reduced.

"On my return in spring (1907), blood was still present in the water, and the frequency of micturition remained marked. In July, 1907, Professor Caird referred me to Dr. Philip, when the symptoms were much as I have described."

At that date the patient was immediately treated by tuberculin, and tuberculin was continuously used, with intervals from time to time, for many months.

The patient's record—once more in his own words—runs as follows:—

"The pus in the urine gradually decreased. The blood, at first always present, began to lessen, and then to disappear from time to time. It might be absent for a month or two, and then return for a few days. Subsequently it disappeared entirely."

Writing in January, 1910, the patient says—"I am about as fit as ever I have been. It is the gradual return to increased strength which has struck me most. I can easily do to-day what I could scarcely think of 2½ years ago."

Two and a half years later (June, 1912), the patient records as follows:—"During the past two years I have continued, with one interruption, to enjoy good health. During the whole time I have been going about, with the exception of four days in March, 1912, and have been able to overtake a considerable amount of manual work, while very often I walk from ten to twelve miles per diem up very steep hills without feeling the least exhaustion. In fact, I was feeling so well in the autumn of 1911 that I rented a farm of over 800 acres, and felt equal to the work of managing and looking after it. Up at 5·30 A.M., and out of doors nearly all day, I feel nearly as fit as ever I did in my life. If it were not for a little frequency of micturition—which is more an inconvenience than anything else—I should consider myself in the best of health.

"I have never had any ill-effects from the injections, and the progress I have made I wholly attribute to the programme and treatment laid down at the beginning, and to continued perseverance in carrying it out."

The other day, in view of this address, I wrote to Dr. D. B. regarding his condition, and his reply runs as follows:—

"I am glad to be able to report that I am continuing in the best of health, and have been very well since last I wrote to you. My weight is 13 st. 2 lbs., and has been about that for a considerable time. I am able to manage the farm without being in the least fatigued by the amount of work that has to be done. For instance, last week on Monday and Tuesday I was working hard on the farm threshing barley. On Wednesday I was in Edinburgh Market. On Thursday I walked over all the farm (about eight miles), and on Friday went to Kelso Market. On Saturday I walked over a large farm at Jedburgh, and came home at night—not a bit too tired to go to church on Sunday."

A word as to the lasting nature of such cures. It is frequently suggested that the improvement is but temporary, and that the results, however striking, are apt to disappear quickly. Such is not my experience. There are disappointments, of course, in this as in other departments of medicine. Speaking broadly, however, I am satisfied that when the treatment is maintained for sufficient length of time—that is, until cicatricial changes have progressed sufficiently, and the case is afterwards kept under surveillance as a case of syphilis would be—the satisfactory results continue. The histories I have quoted are themselves excellent examples.

I might illustrate the point by many others. The following is of special interest, because of the gravity of the initial lesion and the known continuance of the cure for fifteen years:—

On 23rd June, 1909, J. D., aged 28 years, a mechanic, suffering from acute pneumonia, was admitted into my ward in the Edinburgh Royal Infirmary. It was a pneumococcal infection, and the illness was sharp and ran a natural course. The patient was discharged well in three weeks' time.

The point of interest is that examination of the patient revealed the presence of a tracheotomy scar. It emerged that the patient had been under my care in the Royal Victoria Hospital for Consumption, Edinburgh, fifteen years before. At that time he was a lad of 13 years of age. Then the condition was one of grave laryngeal tuberculosis. The tuberculous disease was extensive, involving the ary-epiglottic folds and the cords. The epiglottis was much swollen and œdematous. Dyspnœa was urgent. Tracheotomy was necessary, and was performed by Mr. David Wallace. The lungs were also involved, especially the right apex.

The patient was treated by tuberculin. In five months' time the patient was discharged, with the larynx almost entirely well. The result was so satisfactory I took occasion to show the lad some time later at a meeting of the British Medical Association. Four years subsequently I examined the larynx with care, and was hardly able to trace anything, save slight cicatricial remains.

Thereafter I heard nothing of him till 1909, when he appeared at the Royal Infirmary with pneumonia. Examination of the larynx at this date revealed nothing abnormal. The patient reported that since the time of discharge from the Victoria Hospital the larynx had given him no trouble.

I might multiply cases endlessly, but for the present these must suffice. If vaccine-therapy is to have a fair chance, it is essential that treatment be commenced while the defensive mechanism remains capable of response to the stimulation of the toxins contained in the vaccine. If the patient's system be already saturated with the toxins of the tubercle bacillus, the addition of small quantities of these can be of no value, and may, indeed, aggravate the situation gravely. These considerations are important. They serve to explain why it is that tuberculin—the vaccine potential of which remains constant—produces good results in one patient and fails entirely in another, and likewise, why a given tuberculin when injected in a certain dose may prove serviceable through sufficient stimulation of the defensive mechanism, and when administered in larger dose to the same individual may prove harmful.

Our aim in tuberculin-therapy must constantly be to exhibit that amount of vaccine which stimulates, without disturbing over-much, the protective mechanism. The successful determination of this *optimum* dose—which is neither the minimum nor the maximum dose—depends on careful clinical observation and experience.

If, in speaking of therapeutic progress, I have limited myself to ærotherapy and vaccine therapy, it is not because other advances have not taken place. Those are, however, the most striking. They are chiefly responsible for the remarkably improved prognosis which is now possible in many cases. To the more perfect application of these two methods we may look with confidence for still greater therapeutic triumphs.

As to future developments in treatment, it is less easy to speak. There would seem to be ground for hope that further research in the department of chemo-therapy may reveal combinations which may prove efficacious, either independently or as adjuvants to other treatment. Here, too, the analogy with syphilis has suggestive bearings.

PREVENTION AND CONTROL.

Thus far, we have considered the more striking advances which have taken place in pathological and clinical knowledge. There remains to be cited the no less remarkable developments on preventive lines.

The greatest factor in the rapid acceleration of progress here has been the general acceptance of the view that tuberculosis is an infective and an endemic disease. Twenty-five years ago the supporters of the view had a bad time of it, notwithstanding the discovery of the tubercle bacillus. The array of evidence on the other side was considerable, and received strong backing. The position was yielded only after a tough contest. Now the tables have been turned, and the adherents of the older view get fewer every day.

The admission of the infective and endemic nature of tuberculosis has led to growing willingness to adopt measures in consonance with the needs. The necessity of applying to tuberculosis the great principles which have proved efficacious in relation to other infective diseases has been recognised.

First and foremost, notification has come. Beginning with a hesitating adoption of the principle here and there in isolated centres, public opinion got more and more crystallised, until there came to be a wide-spread demand in its favour. To-day not one form of tuberculosis only, but tuberculosis in all its manifestations, is compulsorily notifiable throughout England. The same will shortly be effected for Scotland. It is noteworthy that some of the leading opponents of the measure when it was first proposed have wheeled round and become active movers in the reform.

Side by side with the growing insistence on notification, there has been forged machinery for dealing effectively with the immense mass of tuberculous material in the community. Such special machinery is necessary because of the protean character of tuberculosis. Consideration is needed not only as to the *amount* of disease, but also to its *extremely varying manifestations.* The latter point is of paramount importance.

If I have succeeded in showing that the need for the earlier diagnosis of tuberculosis is pressing, there is no less need for satisfactory classification and proper assorting of the varying types of case.

It was considerations such as these which led to the institution of a co-ordinated scheme for dealing with tuberculosis in all its phases and stages. It was the practical needs of the situation which led to the creation of the Tuberculosis Dispensary as an information bureau, receiving house, centre of diagnosis, clearing house, centre for treatment in certain cases, centre for examination of contacts, centre for after-care, and centre of education.

With the development of the tuberculosis dispensary, and its possibilities of satisfactory classification, the call became imperative for suitable distribution of the different types of case to different types of institution. A claim was made for the erection of several specialised institutions, so that the early and readily curable cases might be separated from the more advanced and incurable cases.

In this sense the sanatorium for incipient cases and the hospital for less early cases are, developmentally, extensions of the collecting and distributing centre—the tuberculosis dispensary—which must exist in every community if the tuberculous material of the given area, and the problems which attach thereto, are to be handled in accordance with modern scientific principles, and to the best advantage of the citizens.

The institution of the tuberculosis school and farm colony was evolved for the same reason, and in the same kind of way.

The larger outlook on the tuberculosis problem which followed the determination of the close etiological relationships of childhood raised practical questions of much importance. Foremost among these was the provision of schools for different groups of tuberculous children. The establishment of these has constituted a fruitful experiment. Tuberculosis schools are now beyond the experimental stage. To be really effective such schools must be linked, on the one hand, with the co-ordinated anti-tuberculosis scheme, and, on the other, with the educational authorities.

The essential in the conduct of such schools is that those in charge should be primarily concerned with the physical health and development of the child. Education in the ordinary sense of the word must take a second place. The needs of each child must be viewed from that standpoint.

Educational methods must be adapted to the individual case. The tuberculosis school is thus an extension of the tuberculosis dispensary or the sanatorium, or both—the medical staff deciding what patients are suitable for transference to the school, and being responsible for the physical care of the child during its attendance.

The great defect of the older outlook on tuberculosis was its limitation to the care and treatment of individual patients, and these commonly in an advanced stage of disease.

The outlook of to-day is quite another. The individual patient is taken in hand no less than before. The latest advances in medical science are utilised with a view to diagnosis at the earliest possible moment and the subsequent treatment of his case. If it be possible to treat the patient at home, his dwelling is re-created on physiological lines. So far as is possible, the home becomes a sanatorium. If it is desirable for him to be removed from his surroundings, either in his own interest or that of others, a suitable institution is found for him. Whether that be the sanatorium, or the hospital for more advanced cases, or the farm colony, or the tuberculosis school, depends on the character of the case, the age of the individual, and other such factors.

But more than that. Instead of waiting, as in the old days, until tuberculous patients are brought for examination because of pronounced symptoms—which commonly means an advanced stage of the illness—a *systematic search* is made for the earliest manifestations of tuberculosis. This is especially significant in relation to the homes of the poor, but is applicable in every household. The detection of one case is made the occasion to have a "March-Past" of all the members of the household. In this way, tuberculosis is discovered while the weed is still at the seedling stage. It is much easier to deal with the seedling than with the grown tree.

The dwelling of the patient, likewise, is thoroughly taken in hand, whether the patient has been removed to an institution or is being treated at home. The inmates are taught in what respects the home conditions are faulty, and learn how to re-create the dwelling in accordance with the principles of ærotherapy. To propose, as is sometimes done, to remove all patients from their surroundings—to institutionalise all cases of tuberculosis—is to plead ignorance of the pathology and treatment of the disease. The proposal is impossible and fortunately unnecessary.

It is the function of the practitioner trained in tuberculosis to attack the problem in the household, in the nursery, and in the school-room, among the rich or the poor. It is one of the cardinal principles of the tuberculosis dispensary that an endemic disease must be followed to, and met in, the home. Thus once again we are up against the great housing problem. On this I may not further enter save to dissent from the view that it is impossible to treat tuberculosis satisfactorily in a two-roomed house. The experience of the tuberculosis dispensary is in entire opposition to this. With the re-creation of the dwelling, which is effected every day by our tuberculosis doctors and nurses, tuberculous cases are treated in such homes with excellent results. More than this, it is becoming a commonplace that it is possible to introduce effectively into these humble dwellings—provided there be no radical defect of construction — a higher standard of physiological living than is frequently found in the many-roomed mansions of the rich. The housing problem involves much more than mere increase in the number of rooms or the size of the dwelling. We cannot give to every household a large house, but with a little trouble we can teach the household how to live so as to prevent disease.

I am unwishful to disturb a peaceful evening by allusion to the provisions of the Insurance Act, even in so far as it relates to tuberculosis. In thus consulting our mutual comfort, I crave you will allow me a single reference to the work of the Departmental Committee which was appointed to advise the Government regarding general policy in respect of the problem of tuberculosis in the United Kingdom. That Committee has wisely insisted that whatever anti-tuberculosis measures are available for insured persons must be made applicable in respect of the entire population of the country. You will agree with me that that is essential. An effective anti-tuberculosis scheme must concern itself in the fullest degree with every aspect of the problem.

If the proposals of the committee, as embodied in their two reports, are essentially sound and sufficiently wide, there still remain many practical difficulties in carrying the proposals into effect. We cannot shut our eyes to the magnitude and delicacy of the issues. None the less, with the fullest realisation of the difficulties, I remain perfectly sanguine that, when the remarkable change in the tuberculosis horizon to which it has been my privilege to point to you to-night has been recognised and appreciated, the "passing of tuberculosis" will be admitted by anticipation. All the events of the past thirty years seem to me to justify the view that in a reasonably progressive community the "passing of tuberculosis" should practically be an accomplished fact within a generation and a half.

Towards this happy consummation it is perfectly clear that the chief influence lies with the general body of practitioners. It is to a united movement and common action on their part that we must look for the achievement of the result. It is in that belief that I have ventured to avail myself of the opportunity your kindness has given me to submit for your consideration certain aspects of this vast question. I trust no one will conceive that any of the suggestions I have made can in any way trench on the proper domain, or restrict the energy, of the general practitioner. If my anticipations be just, you will share my view that for many years to come the amount of work available to each practitioner will certainly not be lessened. But the hopelessness of ineffectual effort will be removed. The work will have the inspiration of expectation based on scientific certainties and legitimate calculation.

If already, for some of our communities, the Registrar-General has been able to report that the mortality from tuberculosis has fallen more than 40 per cent in ten years' time, there would seem to be little ground to doubt that, with the enlargement of knowledge and widening possibilities we have considered to-night, the mortality from tuberculosis should, within the period I have predicated, fall little short of the vanishing point.

CASES ILLUSTRATING CERTAIN URINARY CONDITIONS IN WOMEN ASSOCIATED WITH FREQUENT OR PAINFUL MICTURITION.[1]

By DAVID NEWMAN, M.D., F.R.F.P.S.G.,
Surgeon, Glasgow Royal Infirmary.

A considerable number of women suffering from frequent or painful micturition fail to gain any permanent improvement even after most careful treatment has been employed, and not uncommonly the patient is sent with the report from her medical adviser—"I suspect a stone in the bladder, but have not been able to find one; I would like a cystoscopic examination made, and an opinion as to the cause of the trouble."

Undue frequency of micturition accompanied by pain, or what was formerly known as "irritability of the bladder," is the first indication of many urinary diseases, not of the bladder only, but also of the kidney. That a routine and complete examination is necessary to the proper understanding of what may appear at first sight to be a simple case is forced upon the surgeon the more he studies the details of urology. In the great majority the diagnosis is easy and moderately certain, and one is apt to be satisfied when a lesion is discovered which may explain the symptoms. The treatment is, however, not successful: something has been left unseen. As with the interior of the eye, the ear, or the throat, the lesion in the bladder must be seen. Who would give an opinion of a diseased optic disc without using an ophthalmoscope? But still men express freely their opinion of a diseased bladder without looking at it.

Symptoms, no doubt, often indicate clearly the nature and site of the lesion, but just as often in the urinary tract they mislead, unless resort is had to physical proofs to guide and correct the conclusions deduced from the subjective phenomena. There are some diseases more liable than others to lead us astray. To only six of these will our attention be now directed, namely:—

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[1] A communication made to the Medico-Chirurgical Society of Glasgow, 17th January, 1913.

A. Cystitis of pregnancy, with its results.
B. Early renal tuberculosis.
C. Early tuberculosis at the base of the bladder.
D. Lesions at the neck of the bladder, the trigone, and the urethra. Incontinence of urine.
E. Polyps of urethra.
F. Movable kidney.

The study of our own mistakes and the mistakes of others demonstrate that these lesions are not kept clearly enough in view in making a diagnosis. It is essential to recognise that such conditions exist, and are met with frequently in practice. Where the subjective symptoms are accompanied by well-marked objective signs, the diagnosis is easy and at once apparent, but it is otherwise when there is no distinct change in the character of the urine, and no physical signs pointing to the seat of the lesion.

A. *Cystitis of pregnancy, with its results.*—This form of inflammation of the bladder is of interest as the forerunner of trouble in a great number of women, for the reason that the symptoms during pregnancy often are not very severe, and are attributed by the patient to "her condition" at the time. Herein lies the danger; often she says little or nothing about it to her medical attendant, and it is only when questioned, perhaps years after the infection of the bladder has been established, that she recalls the onset of the disease. When treated at the beginning the cure is easy and no harm results, but if left alone much worry and pain is the reward of neglect.

Following chronic constipation and engorgement of the colon in young women about the fifth or sixth month, a moderately acute attack of cystitis sets in. The onset is sudden—an acute rigor, discomfort over the bladder and hypogastrium, painful and frequent micturition, temperature elevated and irregular, pulse rapid, and tongue furred. Soon the patient complains of wide-spread pain in the back, loss of appetite, headache and depression, and all the symptoms of toxæmia. On examination, the patient complains of pain on pressure over the kidneys and bladder: the kidneys are found to be enlarged, and there is tenderness and rigidity in the lumbar muscles; and leucocytosis, polymorphonuclears, and red blood corpuscles show evidence of anæmia. The urine is acid, smoky, contains some albumen, pus, and squamous epithelium. The odour is not offensive at first, but on standing soon becomes so. Such a case demands attention,

DESCRIPTION OF ILLUSTRATIONS.

Fig. 1.

Bacillus coli infection of bladder, showing three highly sensitive nodules at the neck. The mucous membrane was deeply congested and thickened.

Fig. 2.

Bacillus coli infection, showing hyperæmia at the neck of the bladder, but so slight and limited as to be liable to escape observation.

Fig. 3.

Bacillus coli infection. The mucous membrane deeply congested and covered by flakes of muco-purulent material, which are usually adherent to the œdematous and swollen mucous membrane.

Fig. 4.

Early tuberculous deposit in primary vesical tuberculosis. The mucous membrane was deeply injected, and in the trigone there were four oval submucous caseous nodules, which were removed by curetting.

Fig. 5.

Bacillus coli infection of urethra. Shows upper portion of urethra, with marked thickening and congestion of mucous membrane, and several small superficial erosions.

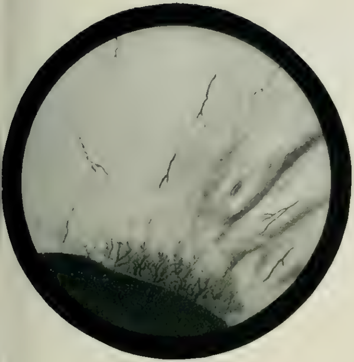

FIG. 2.

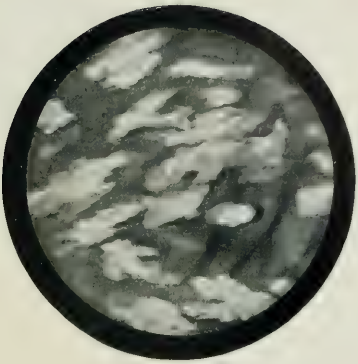

FIG. 3.

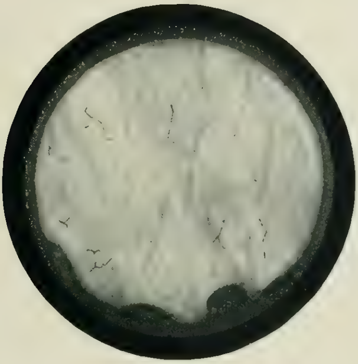

FIG. 1.

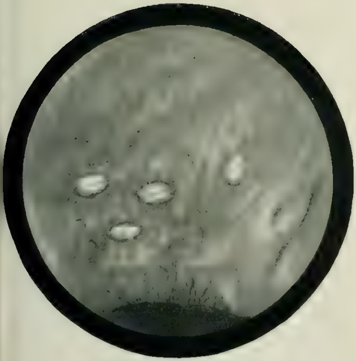

FIG. 4.

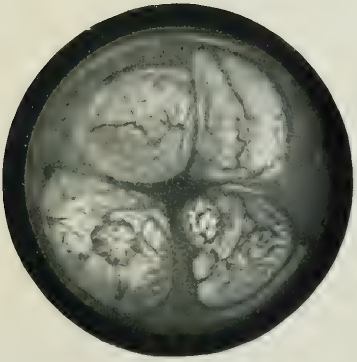

FIG. 5.

To illustrate Dr. Newman's communication.

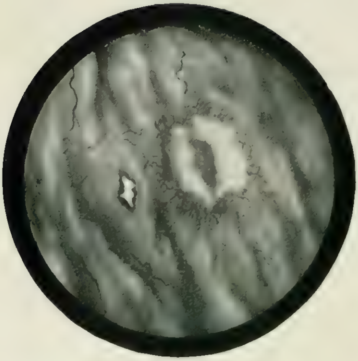

FIG. 7.

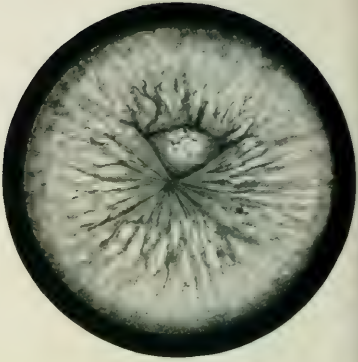

FIG. 8.

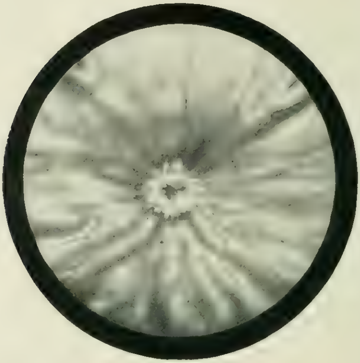

FIG. 6.

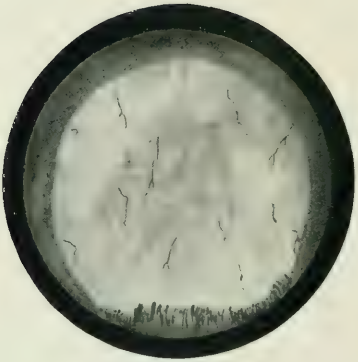

FIG. 9.

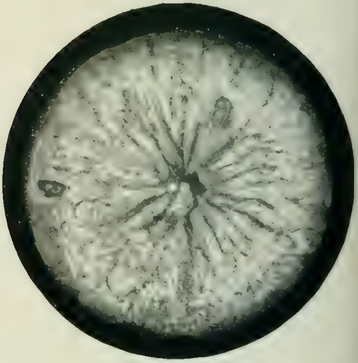

FIG. 10.

To illustrate Dr. Newman's communication.

DESCRIPTION OF ILLUSTRATIONS.

Fig. 6.

Old-standing mixed infection of bladder, showing appearance of the neck, which is completely surrounded by a papillomatous-looking mass of inflammatous exudation. Mucous membrane thickened and congested.

Fig. 7.

Mixed infection, with ulceration of mucous membrane of the trigone. One ulcer is seen clearly, the other, the larger, is completely hidden by a cloud of white mucus.

Fig. 8.

View of the upper portion of urethra, showing a small mucous polypus in the lumen of the canal.

Fig. 9.

View of neck, which is deeply congested, and the lower surface is covered by a fringe of fimbriated processes with bulbous ends, pale and œdematous, except at the ends, which were bright-red and bled freely.

Fig. 10.

Chronic urethritis, with swelling of mucous membrane and numerous little nodular growths, oval in shape, and of a bright red colour.

Form a mixed infection.

The mucous membrane of the posterior two-thirds of the urethra was deeply injected, but no ulceration could be discovered. No tubercle bacilli and no gonococci.

The bladder was washed with boracic acid solution twice daily, and after a week the neck of the bladder and the urethra were swabbed over with pure phenol, and afterwards with an alkaline solution to stop the action of the acid. Cocaine bougies introduced to relieve pain. Result satisfactory. Reported cured, 26th October, 1909.

Well, and last seen, 5th April, 1911.

Those who are familiar with the varying conditions and reactions of the urine in different healthy individuals, and of the same person at different times, must have observed that some samples undergo decomposition with great rapidity, while others remain unchanged for a considerable time. Early decomposition of urine, which is sterile when excreted, is due to the fluid containing waste products capable of easy decomposition; consequently, we find that when a woman is suffering from imperfect digestion, nervous disturbance, or constipation, the urine decomposes early. During pregnancy the excretions are modified considerably, and the urine is rendered a more suitable medium for the proliferation of organisms. Since the time of the ancients changes in the urine have been noticed, as well as other phenomena having origin in the glandular system, but even now the peculiar liability of the bladder to bacillus coli infection during pregnancy has not been sufficiently emphasised.

For obvious reasons, the female bladder is very liable to infection along the lumen of the urethra. Hence with them infection is generally ascending, whereas in man it is descending in character. In women urethritis and cystitis are often met with, independent of any renal lesion, whereas in men they are most frequently associated with some septic disease of the kidney.

Unfortunately, a general belief prevails that urethral inflammation in women is necessarily gonorrhœal in origin: but, while generally it may be so, a considerable number of very troublesome cases are met with in which gonococcus has nothing to do, and where the patient has never had any gonorrhœal infection. The most common of these is that following the cystitis of pregnancy, and it is nearly always a bacillus coli infection. When the onset of the disease is acute and well defined, the diagnosis is made at once, but if the infection be mild and the development of the lesion slow, things are allowed to drift until the symptoms become severe, and by that time the relationship of the cystitis to pregnancy is liable to be forgotten.

The cystoscopic appearances do not, as a rule, show any serious changes in the mucous membrane of the bladder; indeed, they are often surprisingly slight considering the amount of pain and inconvenience they occasion. It is the situation of the lesions, not their severity or extent, that causes the trouble. There may be simply patchy congestion without much thickening of the mucous membrane, and in a few instances the lesion may escape the notice of an inexperienced observer (Fig. 2). For this reason the surgeon must be most careful in his cystoscopic examination, especially of the base and neck of the bladder. In the great majority of cases, however, the evidence of disease is more obvious, the mucous membrane being congested and covered with thin flakes of muco-purulent material (Fig. 3), which, being adherent to the epithelial surface, are not readily dislodged by washing. Bacillus coli infection of the bladder, when allowed to persist, is very liable to induce urethritis, which is often very troublesome, but these secondary results will be described under section *D*.

B. Early renal tuberculosis is the next condition which calls for attention. In young women frequent or painful micturition is often the first indication of disturbance in the urinary tract, but its importance as a symptom is liable to be overlooked. The following passage from an article by the writer may be recalled:—"Indeed, when, independent of any vesical or urethral disease, frequent micturition or nocturnal incontinence is complained of in young persons, the symptoms should always arouse suspicion, and, even although the patient does not complain of pain in the bladder, a careful enquiry should at once be made to demonstrate the cause of the symptoms." The early tuberculous lesion in the kidney induces increased functional activity of the affected organ, as shown by polyuria, and reflex irritability induces the bladder more readily to respond to moderate distension. On the other hand, the frequent micturition in tuberculosis may be a consequence of secondary infection of the bladder, which is often an early accompaniment of the renal lesion. And here also the seriousness of the symptom is apt to be underrated from the circumstances that the micturition is not accompanied by pain. The patient does not regard it of importance, and fails to mention it to her medical adviser until other symptoms develop. Vesical irritability, and, after a time, pain also, become more or less prominent features; often the irritability is limited to the early hours of the day, and becomes less as the day advances. When the bladder is distended to a certain degree the pain may suddenly come on, demand immediate emptying of the bladder, and may continue for some time after micturition is completed. As the disease advances —generally a slow process at first—the pain, the frequent urination and vesical tenesmus steadily become worse. The character of the pain is variously described as sharp, aching, dull, and may be transmitted along the urethra to the renal region, or even over the whole of the back. But usually it is limited to the bladder and suprapubic areas. The amount of pain depends more upon the locality of the lesion in the bladder than its extent—when the upper and middle zones alone are implicated the suffering is slight, whereas if the disease involves the base, and especially the neck, pain is a very prominent symptom.

The premonitory symptoms of early renal tuberculosis and primary vesical tuberculosis are very similar—in fact, all the symptoms of the latter may be present when the kidneys alone are involved, and, on the other hand, considerable disease of the bladder may exist without giving rise to any trouble. This is, however, only met with when the neck of the bladder is not included in the lesion. Remission of the symptoms is one of the most characteristic features of the disease, both as it affects the kidneys and the bladder. During a remission the patient's general health may improve, she may gain weight, her temperature remain undisturbed, the polyuria, hæmaturia, and frequency of micturition may disappear, and she may suffer no pain and little inconvenience. This favourable condition does not last long, and sooner or later all the old troubles reappear with fresh vigour. When a remission occurs, especially if it be a long one, a hopeful medical attendant may be too easily led astray by the belief that things are improving, and that the symptoms after all may have been due to a trivial cause. In all cases an exhaustive examination is demanded, and the familiar objective methods should be employed—

1. Bacteriological examination of the urine and inoculation experiments.
2. Ophthalmo-tuberculin reaction.
3. Segregation of the urine.
4. Cystoscopy.

1. The discovery of tubercle bacillus in the urine is of first

importance, but as they may be present in small numbers, repeated examinations may be made before a reliable opinion can be formed simply by microscopic examination. In such cases inoculation experiments clear up the diagnosis, as when tuberculous urine is injected into the peritoneum of a guinea-pig a tuberculous peritonitis is sure to follow within a month or six weeks, or earlier.

2. Ophthalmo-tuberculin reaction is also a useful, although not an absolutely reliable, test. Usually in tuberculous subjects in eighteen to thirty hours after the installation distinct hyperæmia appears at the caruncle, and in forty-eight hours conjunctivitis results. It only proves that the patient is tuberculous: it does not locate the lesion.

3. Segregation of urine is not to be recommended in early tuberculosis unless in exceptional cases. Undoubtedly catheterisation and segregation are of value in order to obtain reliable information as to the kidney which is diseased, as well as an estimate of the functional activity of its neighbour; but unless ordinary clinical methods, aided by the careful use of the cystoscope, fail to supply the information required, these methods should not be resorted to in early tuberculosis. Considering the amount of information that may be obtained from a cystoscopic examination, the cystoscope should always be used before ureter, catheters, or segregators are employed.

4. Cystoscopy affords most useful and reliable information. In early tuberculosis of the kidney the following conclusions may be accepted:—(*a*) When one ureteral orifice is altered while the other is normal the renal lesion is on the side of the morbid ureter: (*b*) the deformity of the orifice and the lesion there indicate the nature of the renal disease: (*c*) the character of the urine escaping from the ureter denotes the morbid changes taking place in the corresponding kidney; (*d*) the frequency, size, and regularity of the "shoots" from the two orifices indicate the functional activity or the presence of undue irritation in the respective kidneys; (*e*) when the orifice of the ureter is strictly normal no serious disease exists in the corresponding kidney: (*f*) when the kidney is normal the orifice of the ureter is also normal; (*g*) when there is evidence of tuberculosis at the orifice of the ureter there is always associated with it tuberculosis of the corresponding kidney; (*h*) in tuberculosis of the bladder the ureter does not become involved if the corresponding kidney is free from disease.

C. In *early tuberculosis of the bladder* the most characteristic changes are hyperæmia of the floor and neck of the bladder associated with the deposit of minute nodules beneath the epithelium of mucous membrane of the bladder. These are at first clear, like boiled sago grains, but gradually become opaque from caseous degeneration while the congestion increases, and the appearance is produced of bright red rings enclosing pale, chalky-looking elevated nodules. Often irregular erosions are covered with pale flacks of mucus or muco-pus. Two or three ulcers are usually found in the same bladder, and adjacent to the ulcers miliary tubercles are generally seen. These are the appearances in the early stage, when the disease is liable to be overlooked; later on the diagnosis is only too easy. The premonitory sign, frequent micturition, and especially nocturnal micturition in young women, may exist long before any other complaint is made, and is generally associated with increase in the amount of the excretion, but not being accompanied by pain the patient does not regard it as of any great consequence, and her medical adviser is not consulted. It is only when vesical irritation and pain become prominent or a hæmaturia occurs that alarm arises in the mind of the patient or her friends. These symptoms generally indicate that the premonitory stage of the disease has nearly passed, and the period open to successful surgical treatment will soon be over.

CASE II.—*Frequent urination for two years, with pain only on distension of the bladder, disappearing when emptied—Latterly, pain always present—Moderate pyuria; 5 per cent pus containing tubercle bacilli; no hœmaturia—Marked hyperœmia of bladder and caseous deposit on floor—Curetted through urethra—Tuberculin R.—Well, 1911.*[1]

Patient K. S. B., æt. 24 years, was admitted to the Glasgow Royal Infirmary on 5th November, 1906, complaining of pain, frequency of micturition, and a bearing-down feeling in pelvis of two years' duration.

History of present illness.—About two years ago, she first noticed a desire to pass urine oftener than usual, and had much pain whenever there was any distension of the bladder. At first the pain disappeared whenever urine was passed. This frequency of micturition became worse, until last May, when she had to pass urine every hour and a half. Since then frequency has lessened, and she can now retain urine for about three hours, but the pain is always present when she is walking about, and does not disappear, as formerly, as soon as the act of micturition is completed. The pain disappears to a large extent when she goes to bed, but the increased frequency of micturition remains. Through the present illness the patient has not being losing weight, but occasionally has "feverish attacks." Except when she had an attack of pneumonia last summer, she had not noticed any swelling of the feet or eyelids.

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[1] This case was reported in an article on "Primary and Early Secondary Tuberculous Cystitis," *The Practitioner*, July, 1912.

Previous health.—Patient had scarlet fever when a child, and pneumonia last summer, but otherwise has enjoyed good health.

Present condition.—Patient is fairly well nourished. Heart and lungs seem in good condition. Pulse, 84, small in volume and tension, but regular.

Examination of abdomen reveals nothing abnormal to percussion or palpation. Kidneys not palpable, and no tenderness to be found in that region.

Urine.—Pale in colour; acid reaction; specific gravity, 1020; gives reaction for albumen, but not for blood or sugar; microscopically, pus cells are numerous.

13th November, 1906.—Cystoscopic examination by Dr. Newman. The whole of the mucous membrane of the bladder was deeply injected. On the right side of the trigone there were several submucous caseous deposits, elongated, oval in shape (Fig. 4). The caseous matter shone through an unbroken epithelial cover; no ulceration at any point. Tubercle bacilli present in six out of ten examinations. Dr. R. M. Buchanan's report was—"The guinea-pigs inoculated, when killed, were found tuberculous."

14th November, 1906.—Patient getting 5 grs. phenacetin and 5 grs. ext. of hyoscyam three times a day. Cystostomy not required; bladder curetted by urethra. Tuberculin R. prescribed once a fortnight for next four months.

13th March, 1907.—Cystoscopic examination by Dr. Newman. A good view was obtained of the bladder, in which nothing abnormal could be found, with the exception of a little hyperæmia at the neck and two small nodules similar to those described in last report. The mucous membrane was pale in colour, and the vessels were not very clearly defined.

1st May, 1908.—Cystoscopic examination by Dr. Newman. Examination of the bladder showed slight hyperæmia around the neck, otherwise the mucous membrane was normal in appearance, and the tuberculous nodules, referred to in last report, had disappeared.

19th February, 1909.—Cystoscopic examination by Dr. Newman. The mucous membrane of the bladder was normal in appearance, with the exception of some œdema, and the arterioles were not clearly seen. No nodules or ulceration seen.

20th June, 1910.—Patient reported well, and able to follow her occupation of an hospital nurse. No tubercle bacilli present.

20th November, 1911.—The patient was reported to be well.

D. Lesions at the neck of the bladder, the trigone, and *the urethra.*—In women a form of irritable bladder is common where the patient is distressed by frequent micturition during the day, and during the night there may be occasional incontinence. The only complaint may be frequency, and although it may be most troublesome and inconvenient to the patient, from the nature of the illness she is liable to hide or minimise her suffering rather than seek medical advice.

Another condition worthy of attention is persistent incontinence of urine in women.

Case III.—*Five years persistent frequency in micturition—Relieved only by rest and heat—During last three months symptoms resembling stone in bladder—Constant pyuria—Moderate occasional hæmaturia—Neck of bladder and urethra congested, and small superficial erosions—Phenol applied twice—Cure.*

Miss W., aged 58 years, was sent to me with a long history of bladder trouble, persistent frequency, and painful micturition with slight pyuria, and on four occasions she noticed some blood in the urine, but her medical attendant informed me that on many occasions he had discovered small quantities of blood. The only treatment which afforded any relief was complete rest in bed, and continued application of hot fomentations.

On admission to the M'Alpin Home a cystoscopic examination showed marked congestion of the neck of the bladder and upper portion of the urethra, with several small superficial erosions in the latter region (Fig. 5). The infection was due to bacillus coli, and no tubercle bacilli or gonococci were found.

The whole course of the urethra and the mucous membrane at the neck of the bladder were on two occasions swabbed with phenol, and afterwards with an alkaline solution. Considerable pain followed the application, but it was relieved with cocaine bougies.

When admitted she was passing urine from eighteen to twenty-two times in twenty-four hours. When dismissed six weeks later she could retain urine for three hours during the day and considerably longer during the night, and all pain was gone.

The condition being associated with the excretion of highly acid urine, its true cause is likely to be overlooked, and the reaction of the urine blamed rather than an infection of the vesical triangle or neck of the bladder. The floor and the neck of the bladder become over-sensitive. To understand this disorder, which is so often the cause of involuntary micturition in children and adolescents, it may be well to recall the conditions which control normal micturition. Under higher centres in the cerebrum there are two centres in the lumbar region of the cord, a sphincter centre and a micturition centre—the former controlling the muscular fibres at the neck of the bladder, the latter the muscular structures of the bladder wall. When distension of the viscus occurs, the mucous membrane becomes stretched and the sensory nerve fibres are stimulated, and through the centre in the cord an impulse is conveyed to the sensorium. On perception of this, a double impulse is emitted from the brain to the cord—one to stimulate contraction of the muscular fibres of the bladder wall, the other to exhibit the sphincter centre, and thereby induce relaxation of the neck of the bladder, and so permit of the escape of the contents of the viscus.

With involuntary micturition the conditions are different; the passage of water takes place without the intervention of the higher centres. This is seen during the early months of life. The infant passes water every half hour while awake, and during sleep probably every two hours. But gradually as the child gets older the intervals lengthen, and the infant acquires, with proper training, some control over its bladder, so that in a few months, or, if the mother is careful in training, in a few weeks very few napkins need be wetted. In children whose training has not been attended to, where they have not been taught to pass water at regular intervals, the napkins are seldom dry for any length of time. This is a fruitful source of infection.

A careless mother or a nurse, in place of supplying clean napkins, simply dries the soiled ones, using them several times without washing. These cause scalding of the perineum and adjacent parts, including the vagina and urethra, followed by infection of the urethra and symptoms of cystitis. When the attack subsides a certain amount of bladder irritation remains, and as the patient passes from infancy to childhood nocturnal incontinence manifests itself, and very commonly the sufferer is blamed for carelessness not her own, by those who should not have allowed the infection to have taken place.

Nocturnal incontinence in young girls (not in boys, with them the trouble is due to other causes), which continues in spite of all care and treatment, becomes a source of anxiety and annoyance to the parents, as well as of discomfort and discredit to the child. During deep sleep urine is passed, and the child is conscious of its escape only when she awakes. The flow is not because of inability of the bladder to retain an ordinary quantity of urine, but rather to undue readiness to contract when the reflex action of the vesicular muscular coat is uninfluenced by the will.

What seems to happen is that just before waking, when the bladder is distended, reflex action is set up and the contraction of the sphincter is inhibited, and the urine escapes, or the control of the will being in abeyance a very slight distension of the bladder calls forth involuntary micturition, which may be repeated several times during one night.

Cystoscopy shows in many of these cases a congested neck and slight hyperæmia of the mucous membrane, the urine contains an undue quantity of clear mucus, a deposit of epithelium, and bacilli colli. On adopting suitable local treatment, the disagreeable symptoms disappear.

Case IV. — *Involuntary nocturnal micturition since infancy—Complete control during the day and while awake, no pain, occasional slight pyuria, very acid urine and uric acid in considerable amount—Irrigation and installations —Cure.*

Miss A. P., aged 19 years, consulted me on 26th August, 1908, on account of involuntary micturition during sleep which happened several times a week and had gone on as long as she could remember. All kinds of treatment had been employed both at school and while she was at home, but no lasting benefit was obtained. As far as can be made out the bladder empties itself immediately before she awakes, or more probably the wetting awakes her, but it is at her hour to awake, between 7 and 8 o'clock A.M., that the accident nearly always happens. But if she is roused, say at 5 o'clock, before she can get out of bed the bladder has emptied itself. Careful observations were made by waking her during the night and measuring the quantity of urine passed each time, and it was found that she could retain ten ounces, but if the bladder contained more than that amount evacuation was certain to take place on awakening from sleep. No diseased condition external to the bladder could be discovered, and the patient could not be called "neurotic" in the least degree. The urine had not been examined bacteriologically nor had a cystoscopic examination been made. The patient enjoyed perfect health, was well developed. and very fond of active exercise.

Cystoscopic examination showed distinct congestion at the neck of the bladder (as in Fig. 2) and slight hyperæmia of the uppermost third of the urethra. Otherwise the urinary tract was normal. The urine was very acid when passed and shortly thereafter deposited crystals of uric acid, clear mucus, and a small quantity of pus. Pure cultures of bacillus coli found on all occasions.

The bladder was carefully irrigated with a sterile solution of potass permanganate (5 grs.) and potass chlorate (10 grains) to the ounce of water, at first by fully distending the bladder, afterwards by continuous irrigation. This treatment was continued for a fortnight, the patient being kept in bed; then, in addition to the irrigation, instillations of nitrate of silver were employed, 2 grains to the ounce of water. This was repeated six times, and the patient was sent home on 30th September, 1908.

19th June, 1909.—Only three accidents have happened since September, 1908.

In other cases the patient has complete control both while awake and during sleep, but on account of irritation she requires to rise several times during the night, and in the day is in trouble also. The irritation at the base and neck of the bladder may be complicated by reflex irritation induced by—

1. Cystitis.
2. Vulvitis.
3. Caruncle.
4. Ureteritis.
5. Fissure at neck of bladder.
6. Highly acid urine.
7. Renal disease.
8. Endometritis.
9. Onanism.

These conditions are not likely to be overlooked if they are kept in mind. There is only one lesion which often escapes notice, simply from the fact that the patient is not submitted to a careful endoscopic examination. *Inflammation of the female urethra* is a condition of much greater frequency than is generally believed, and because the urethra and neck of the bladder are not inspected the case is wrongly diagnosed, and the suffering of the patient attributed to cystitis, stone in the bladder, or renal calculus. Urethritis, while most frequently gonorrhœal in origin, frequently exists in women who have had no opportunity of infection, and where no gonococcus can be found in the discharge or urethral mucus. The inflammation is caused by septic or bacillus coli infection. On examination with the endoscope various conditions may be met with.

1. The mucous membrane may be uniformly infected and swollen, and the slightest injury of the mucosa will cause enough bleeding to obscure a view.

2. In other cases the surface is mottled, and the mucous glands stand out as pale bodies on a dark infected background. On pressure a thick muco-purulent discharge may be expressed from the crypts.

3. In severe and acute lesions the mucous membrane may be covered by a membrane composed of fibrine and epithelial *débris*, which when removed exposes an eroded surface.

CASE V.—*Long-standing bacillus coli and staphylococcus infection of bladder—very frequent micturition and severe pain, hæmaturia and pyuria variable—Marked congestion of mucous membrane of the bladder and urethra—Suprapubic cystostomy, and phenol applied to neck of bladder and urethra—Almost complete relief of symptoms.*

Mrs. M'K., aged 45 years, consulted me on 24th January, 1910, complaining of symptoms strongly suggestive of stone in the bladder, but her family attendant was unable to discover one either with the sound or by the *x*-ray plates. The symptoms—pain during and after micturition, frequency, hæmaturia, and pyuria—dated fully back nine years, and during that time the symptoms had steadily increased in severity until they rendered her life a constant misery night and day. She required to pass urine every half hour, always with great pain. Temporary relief was obtained from morphia, rest in bed, and hot applications, but as soon as she resumed active life the pain returned.

Examination of the bladder and urethra showed marked congestion of the mucous membrane at the extreme base of the bladder around the neck (Fig. 6), but most acutely throughout the upper two-thirds of the urethra. In the urethra the mucous membrane presented a mottled appearance, the ground being of a chocolate colour, and the elevations, little round nodules, being bright red, but not denuded of epithelium. Bacillus coli and staphylococcus in urine.

The bladder was carefully irrigated and the patient kept in bed; the usual constitutional and local treatment, including application of phenol to urethra, was carried out without any marked improvement in the symptoms.

21st February.—Suprapubic cystostomy performed and a temporary drainage employed. Bladder washed out twice daily with permanganate of potass solution; later on lactic bacilli cultures introduced and allowed to remain.

23rd March.—Relief of symptoms. Patient's general health much improved and passing urine six times in twenty-four hours.

The surface of the trigone is one of the most common sites of inflammation (Fig. 7), and demands radical treatment in some instances. Beneficial results are obtained in many by irrigation of the bladder as above described, but in the more virulent infections more is required. A suprapubic drain must be established to give free exit to the contents of the bladder and allow cleansing. A temporary drain of this kind is by far the most effective treatment of chronic cystitis, and even in the most persistent and intractable cases astonishing results are obtained. The urine becomes healthy and the mucous membrane normal, and in a few weeks the wound may be allowed to close. The drainage employed is by syphoning the urine into a suitable vessel so as to permit the patient to do without dressings.

This drainage must be supplemented by careful irrigation, and if the urine is alkaline, or contains alkaline phosphates after irrigating, an instillation of lactic bacillus cultures should be given. Milk whey containing pure lactic bacillus not only destroys the septic organisms in the bladder, but also disolves phosphatic crusts adhering to the bladder or the wound. The filtrate of saurine does admirably, and may be used with advantage in all purulent conditions. A suppurating sac or a granulating surface thoroughly washed regularly with it cleans up rapidly; it acts more satisfactorily than any chemical antiseptic, and the lactic acid bacillus not being a pathogenic organism does no harm. In some cases quite remarkable results have been obtained.

Case VI.—*Very painful and frequent micturition from staphylococcus infection of bladder—Pyuria and hæmaturia —Only 2 oz. of urine retained—Acute catarrh of base—Instillation of silver nitrate—Suprapubic drain—Lactic bacillus cultures and irrigation—Cure in six weeks.*

Mrs. M'N., aged 40 years, admitted to the Glasgow Royal Infirmary on 21st August, 1912, complaining of very severe pain during and after the act of micturition, so severe as to bring on sickness and severe headache. She had an inclination to pass urine every half hour, but very little came away at each time, not more than 2 oz. The urine was muddy and bad smelling, and was always tinged with blood. The urine when passed was alkaline, contained pus in abundance, and "strings" of blood. The only organism found was staphylococcus pyogens albus.

27th August, 1912.—When under an anæsthetic the bladder was able to contain 4 oz. only, but after treatment to the 6th of September 7 oz. were retained. An instillation of silver nitrate was used.

19th October.—Cystoscopic examination. The floor of the bladder is inflamed, and there are a number of small prominences on the surface of the mucous membrane in the trigone. These are coated with phosphates, which are irregularly distributed, forming patches and edges. The pure white phosphatic deposit stands out in marked contrast to the deeply injected mucous membrane.

29th October.—Suprapubic cystotomy was performed, and a mass of pulpy granulation tissue was removed from the neck of the bladder.

6th December.—Bladder washed out with boracic acid solution and filtrate of saurine (lactic acid cultures) for five weeks, without much improvement in the local pain, but with great improvement in the condition of the urine. Yesterday patient had no pain, and passed urine naturally. Frequency has greatly diminished.

10th December.—The wound is now closed. Symptoms have undergone sudden improvement. Frequency has been reduced to four or five times a day.

17th December.—Pain absent for a week. Dismissed.

Non-gonorrhœal infections in women have not attracted the attention they deserve. They are nearly always overlooked, and so give rise to prolonged trouble both to the patient and to the medical attendant.

Incontinence of urine in women.—Married women, and women who have had the urethra and neck of the bladder over-dilated by any cause, are liable to suffer from injury to the muscular structures at the neck of the bladder—the structures which control the discharge of urine.

The escape of urine may be continuous or intermittent, but in all it is very distressing to the patient, and prevents her from associating with her friends. The wearing and perpetual changing of wet absorbent gauze pads prevents the woman from going into society, and the irritating secretion causes inflammation of the external genitals and considerable suffering.

The only remedy for this condition is an operation, the details of which I hope to publish shortly. The object is to reunite the fibres of the sphincter at the neck of the bladder and narrow the urethral canal throughout its course. The operation has been quite successful: patients who have been unable to retain urine in the erect posture, have, after the operation, kept it for two, three, or four hours without difficulty—the control for that time being complete.

E. Minute polypi in the urethra are sometimes a cause of considerable local irritation and obstruction, but the condition is so rare that it is only worthy of being mentioned, the writer having seen only three instances of this disease. The polyps may occupy the whole course of the passage, but are most commonly seen at the internal meatus, where they appear like small vesicles. When discovered with the endoscope they should be removed with a curette or snare.

Case VII.—*Sudden stoppage of flow during act of micturition, followed by severe spasm at the neck of bladder—Polypi removed—Cure.*

Mrs. B., aged 56, complained of difficulty in micturition for many years, but never very troublesome till six months ago, when she consulted me for the first time. The only symptoms were that during the act of micturition the flow suddenly stopped, without pain at first, but within half a minute or so she had an oppressive desire to pass water, but none would come away. By waiting, however, for ten or fifteen minutes usually she succeeded in emptying the bladder completely, but not always, as now and then no urine would come away. The urine was always strictly normal. With the endoscope a large elongated polypus was seen (Fig. 8), and a smaller. Both were removed with a wire snare, and immediate relief obtained.

Only three other cases may be mentioned.

The first case illustrates a peculiar condition of the lower margin of the neck of the bladder. The lesion consisted of a crowd of very delicate fimbriated processes, with bulbous ends (Fig. 9), extending from the margin inwards for a distance of about a third of an inch: the papillæ were pale, except at the tips, where they were bright red, almost the colour of blood. They were quite translucent, and presented an œdematous appearance. The symptoms were practically those of vesical calculus, and removal of the growth gave complete relief.

In the second case the lesion was very distinctly localised hyperæmia of the anterior wall of the bladder, immediately in front of the neck. The arteries were very numerous, and fully distended with bright blood, but there was no evidence of erosion or ulceration. This congested zone extended forwards about a quarter of an inch in some places, in others as far as half an inch from the neck of the bladder. It was associated with great pain, frequent micturition, and occasional hæmorrhage.

In the third case the lesions were little nodular growths, not larger than barleycorns, oval in shape, of a bright red colour, and protruding from the mucous membrane very much like the granulations in chronic pharyngitis (Fig. 10).

F. Movable kidney may not only cause changes in the composition of the urine, such as the presence of albumen, blood, and tube-casts, and the accumulation of fatigue-toxines in the body, with diminution or increase in the secretion from time to time; but it may also cause reflex irritation, as shown by frequent and painful micturition. In a few instances frequency and pain in passing urine may be the only symptom complained of, and this being so the cause is very liable to escape notice, there being no symptoms directly pointing to the kidney. One peculiarity is that rest in bed at once affords relief, while active exercise causes the symptoms to return. Hence often the presence of calculus in the bladder is suspected.

Case VIII.—*Movable right kidney causing severe pain at end of micturition, probably by dragging on the right ureter when bladder was emptying itself—Nephrorrhaphy—Cure.*

Mrs. R., aged 34 years, was admitted to the Central Home on 24th December, 1905, complaining of severe pain at end of micturition, but at no other time, except on three occasions after travelling a considerable distance.

The pain complained of came on gradually during two years prior to admission, and for the last two months has caused great inconvenience and discomfort. Complete relief was obtained by rest in bed: no pyuria or hæmaturia; urine always normal, but sometimes very abundant.

Cystoscopic examination showed the bladder to be strictly normal; no organisms present in the urine.

Abdominal examination showed the presence of a freely movable right kidney, which had not been suspected as no symptoms referred to the kidney. The patient was kept under observation for three months, when it was clearly found that there was no other condition present except the movable kidney to account for the symptoms. Rest in bed only gave relief for the time she was in bed; as soon as she moved about the pain returned.

28th April, 1906.—Nephrorrhaphy was performed, and after the operation the pain permanently disappeared.

The pain in this case was probably due to some dragging upon the right ureter when the bladder was emptying itself, there being no pain at other times.

Obituary.

PROFESSOR SAMSON GEMMELL, M.D., F.R.F.P.S.G.

THE death of Professor Samson Gemmell, which occurred with startling suddenness at his residence, 17 Woodside Place, Glasgow, on the 2nd ult., came with something like a shock to the profession and public of the West of Scotland. He had paid his customary visit to the Western Infirmary while feeling in his usual health, and some three hours thereafter, at the conclusion of his consulting hour, sitting down with a volume of Thackeray in his hand, he immediately became unwell and expired before medical aid could be summoned.

He was born in 1848 in the village of Catrine, where his father, Thomas Gemmell, was held in the highest esteem by the little community of cotton weavers, not only as a merchant, but as a man of more than ordinary intelligence, who possessed very advanced views on the subject of education. Within sound, then, of the clear murmuring Ayr, along whose banks the village is clustered, and in view of the classic woods and "braes" of Ballochmyle, was young Gemmell reared. Some of the older residents, particularly those who were the victims of his boyish pranks and practical jokes, still remember and speak of him as "a wild, steerin', though not unkind-hearted laddie." We gather, indeed, from one of those reminiscent contemporaries that the subject of our notice, in his early Catrine days, was a sort of "Alec Forbes of Howglen"—a strong, individual, and, to use an expressive Thrums adjective, magerful youngster, and the inspirer and leader of his youthful companions in their various sports and mischievous enterprises, showing even then that he possessed the qualities of the man. His parent, however, who had the reputation of being a stern disciplinarian, did not, it is said, altogether appreciate his son's popularity with the youth of Catrine, and when he saw boys lying in wait before the shop for the appearance of their captain, would shut young Samson up in the house. The resemblance to George Macdonald's hero of Howglen also holds as regards young Gemmell and the village schoolmaster. It is alleged that he was a sore thorn in the sensitive flesh of that functionary because of the difficulty the master had in keeping pace with his pupil in Greek; and so, one day when doubtless neither of their tempers was in the best of tune, and Gemmell refusing to receive a punishment he very likely richly deserved, it came to a regular stand-up fight or wrestling match in which the master is reported to have got the worst of it. Like Alec and Mallison, however, young Gemmell and the Catrine schoolmaster not only bore each other no ill-will, but afterwards became very good friends. That vanquished preceptor, living in honoured retirement amid the scenes of his former pedagogic rule, is now an old man, whose venerable figure at his old pupil's funeral the other day gave a touch of pathos to the melancholy scene; for he was exceedingly proud of his quondam rebellious scholar, who went every year to see him, when they had a walk together from Mauchline station round by Sorn or Barskimming to Catrine.

On leaving his native Ayrshire, Gemmell came to Glasgow and completed his education at the High School. Thereafter he proceeded to the University, with the view of qualifying for the Civil Service, but, owing to an ocular defect, the result of an accident, was rejected, when he decided to adopt the profession of medicine; and so the art of healing gained what the Civil Service lost.

Professor Gemmell was a distinguished graduate of the University of Glasgow, having taken the degree of M.B., C.M., with honours in 1872, and that of M.D. in 1880. During the first twelve months after graduation he had the good fortune to be appointed as resident assistant to the late Sir William T. Gairdner, who was at that period the most cultured physician in the West of Scotland, and of whom it has been frequently said, and with more than seeming truth, that so great were his learning and general attainments that he could have filled any chair in the University with distinction. In the session of 1873-74 he was Assistant Demonstrator of Anatomy under another remarkable man, the late Professor Allen Thomson, and during the three following years he was Resident Physician at the Glasgow Fever Hospital under the late Dr. J. B. Russell, that far-seeing and most accomplished of St. Mungo's medical health officers, to whose prescience and intelligent administration of public health affairs her citizens are indebted for the marvellous reduction in the last two or three decades of her annual bills of mortality. For eight years he was Sir William Gairdner's assistant in the work of the Chair of Practice of Medicine, and for four years he was his clinical assistant in the Western Infirmary, when, under the guidance of that great man and notable teacher, he doubtless laid the foundation of the brilliant and successful clinician he himself afterwards became. His first and real opportunity of showing the stuff of which he was made came to him with his election to the post of physician to the Royal Infirmary in 1887, where he successfully conducted classes on clinical medicine till 1892, when he was elected physician to the Western Infirmary. Meanwhile, in 1880, he had been appointed to the Chair of Practice of Medicine in Anderson's College Medical School, where he had not only the largest class but was the most popular lecturer on the Practice of Medicine in Glasgow, the University included. On the transference of the late Professor M'Call Anderson from the Chair of Clinical Medicine to the Chair of Practice of Medicine in the University of Glasgow he received the vacated post. Sir T. M'Call Anderson died in January, 1908, and Professor Gemmell, though not a candidate, and in spite of the fact that there were several formidable competitors in the field for the coveted chair, accepted the appointment, which was offered to him on the ground of his outstanding merit, and, to its credit, by a Government with whose politics rumour whispered he was in anything but sympathy. Since 1894, until a few years ago, he was also a visiting physician to the Royal Hospital for Sick Children, Glasgow, and, till his death, consulting physician.

Professor Samson Gemmell was, as we have said, a highly popular teacher both in the ward and in the classroom, and deservedly so, for he spoke with a wide and intimate knowledge of his subject, and therefore with authority, and with a gift of direct and original speech and a wealth of incisive illustration that went home and impressed. His mind, moreover, was a perfect storehouse of observations and facts, and his great faculty of memory enabled him to utilise with telling effect this fruitful field of experience both at the bedside and in the lecture room. And there was the unmistakable quality of personal conviction behind all he said that made him at all times the strong, interesting, and impressive, if, as certain of his enemies asserted, somewhat dogmatic talker. He was, besides, as he proceeded in his thesis, or in casual talk, a coiner of words and phrases that bit into the quick and stuck. Like that shrewdly witty and clever-tongued lady in "Much Ado About Nothing," he spoke poniards, and every word stabbed; and he was never at a loss, no matter whether the subject was medicine or one or other of the numerous fields of intelligence, for his knowledge was encyclopædic and his remarkable memory such that he could always find what he wanted with the utmost readiness and accuracy. We are aware that memory may quite well be more of a hindrance than otherwise—that it is apt to give a man a "mixtie-maxtie, queer hotch-potch" of a mind, comparable only to a badly-kept old curiosity shop. But it was one of the Professor's prime characteristics that he brought to bear on all subjects he touched a keenly critical faculty which enabled him to sift the grain from the chaff, and so he only "memorised" those things that were essential or important. Thus it came about that all his great experience and knowledge were available. Further, much of his success in the diagnosis and treatment of disease arose from the judicial qualities he employed in the elucidation of the problems confronting him, directed by a pitilessly logical mind. For him "facts were chiels that winna ding, and downa be disputed;" and, like the famous professor, "The Thinking Machine," of the late Jacques Futrelle, who perished in the ill-fated *Titanic*, he recognised that two and two made four, not sometimes, but always, always. And it was this same severely logical faculty which made him such a helpful consultant to the practitioner hopelessly puzzled over a mysterious case.

But Professor Gemmell was more than a brilliant clinician, teacher of medicine, and consulting physician, who had the honour and good fortune in his time to indoctrinate in the technique and practice of his art men now pursuing the calling of medicine all over the world. He was a noted personality, of a certain strength and ruggedness; hence, doubtless, his success as a teacher, more especially with those who, anxious to learn, were willing to undergo now and then in the coveted acquirement of knowledge a little rough treatment at the brusque Professor's hands. Woe betide the ignorant and conceited wight who had the temerity to appear before him at his clinique. He was not likely soon to forget the searching and merciless way in which, in the presence of his fellow-students, his nakedness was exposed. For that reason the bedside in Professor Gemmell's wards was not a comfortable place for what are known as "chronics," who, indeed, generally gave their somewhat irregular attendance elsewhere.

Apart from the Professor's medical lore and experience, his general culture was as wide as it was varied, for in addition to being a classical scholar of no mean ability, he was an omnivorous reader, all his leisure being spent in his bachelor home in the society of his books. In conversation with him you discovered that there was nothing he had not read or did not know, and that not only well but intimately, and on subjects, moreover, quite out of the beaten track—in the curious bypaths and lanes of literary erudition. His knowledge of his own native Ayrshire, for instance, which he had only visited professionally and on holidays since his youth, was sufficient to strike residents with admiration and wonder. Its topography, to the minutest particular; its history, folk-lore, great and small families—from Cunninghame to Kyle—he was acquainted with them all. And, though not taking any part in public affairs other than those of the University, he was neither ignorant of nor without the keenest interest in what was current and passing, nor sparing of caustic and scathing criticism to his friends on what, in his judgment, savoured of error and foolishness; for, like his greatest hero, Dr. Johnson, as depicted by the faithful and veracious Boswell, he was an excellent hater, and not afraid to voice in appropriate language his constitutional dislike of all that came under the category of sham and humbug.

Curious to relate, the Professor was not greatly troubled with the *cacoëthes scribendi,* and we are not sure that he had not a certain amount of contempt for those who were rather badly afflicted with that infirmity. That he could be as successful with the pen as the tongue when he chose is shown in, among other contributions to medical literature, his still admirable monograph on "Physical Diagnosis" in Finlayson's *Manual of Clinical Medicine.*

From what we have said it might be inferred that Professor Gemmell was more feared than loved, but that was only true as regards the careless and incompetent student and the genus blockhead generally; for there was a certain magnetism of character about him that attracted and held, so that in those capable of appreciating or reverencing his learning and teaching gifts he had the most staunch and devoted of admirers. There was, too, a marked trait of conservatism in his composition: hating novelty and change, he clung to all things old and proved. His very servants, like those of a century or more ago we read of in novels, stayed with him a lifetime, which is surely the best testimony that he could not have been, as Carlyle's mother declared her genius of a son was, so very ill to live with. Behind the mask of cynicism he was so fond of wearing, he is said, by those who knew him best, to have been one of the kindest and most likeable of men, who could unbend at times, like his commoner fellow mortals, and be the spirit of geniality itself. Those who have had the privilege of being present at some of the social gatherings of his medical brethren, or the convivial functions of students, in which he was generally the centre of mirth and good fellowship, will understand what we mean. And, in spite of his occasional brusqueness of manner, his apparent dogmatism, and merciless sledge-hammer criticism of students and men and things in general, he was a sincere respecter of all honest endeavour and worth, and had a kindly corner in his heart for all real suffering and distress, which only those who were in his inner secrets knew he felt the good man's luxury in relieving, though, with the inwardness of a true Scotsman, he scorned to show it.

JAMES K. KELLY, M.D., F.R.F.P.S.G.

We regret to record the death of Dr. James K. Kelly, which took place at his residence, Park Villa, Queen Mary Avenue, Crosshill, on 22nd March, after a prolonged illness. He was born in 1849 at Riccarton, Kilmarnock, and educated at the Academy there. His natural bent was towards the church, and, with that view, he attended the arts classes of the University of Glasgow, but, changing his mind, adopted the profession of medicine, and settled in Glasgow in 1873 as a general practitioner. Afterwards he specialised in gynæcology, and was appointed lecturer on this subject at St. Mungo's College shortly after its foundation. He also acted as a surgeon, first to the Samaritan Hospital, and then to the Royal Infirmary, where in his wards he was doing excellent work and making a name for himself by the bold and thorough character of his numerous successful operations, the soundness of his teaching, and his valuable contributions to the literature of his speciality, when he was suddenly struck down some six years ago by that illness to which he finally succumbed.

Dr. Kelly may be said to have been one of the pioneers of gynæcology in Glasgow. He took the subject up when it was in its infancy, but, ere the end of his professional career, he saw it firmly established on a scientific basis as an important department of surgery. In this advance he materially assisted. He was one of the first in Glasgow to recommend early operation in extra-uterine pregnancy. In the early days of his appointment to the Royal Infirmary he gave a fair trial to the non-operative method of treatment of this condition, but soon became convinced that operation was not only safer but more expeditious. His name was also associated with advances in the study of ovarian pregnancy and deciduoma malignum. A case of the latter disease was exhaustively studied by him in co-operation with Professor Teacher, and assisted in establishing the views now universally held of its pathology. Dr. Kelly had a knowledge of gynæcological pathology which was rare amongst the specialists of his own time. As a clinician he was most thorough; and as a diagnostician he was seldom at fault. His writings were numerous, more than a score of papers standing against his name in the *Glasgow Medical Journal* alone; and everything he wrote was worthy of careful perusal. He was a past president of the Glasgow Obstetrical and Gynæcological Society, and of the Glasgow Southern Medical Society, and, when he spoke at medical meetings, commanded both attention and interest. He was, and had been from his earliest days, a student and hard worker, and certainly possessed the faculty of taking infinite pains. He also brought, in those earlier years of gynæcological theory and practice, a seriously intellectual endowment and equipment to his task. With him it was not only a pleasure, but also an obligation to keep on making himself acquainted with the very best that was to be known on the subject of his specialty.

It may, indeed, be averred with truth of Dr. Kelly that he was entirely unacquainted with what is known as the art of taking things easy. He was obsessed rather with the idea embodied in that trite aphorism, *ars longa, vita brevis,* so that he never omitted, even when on holiday, to seize an opportunity of extending his knowledge. In the practice of his profession he was most unselfish, never thinking of his own ease or comfort, but always ready by day or night to obey the call of duty, and that, too, with a cheerful willingness which made his presence at the bedside doubly welcome.

In this strenuous living, actuated by high ideals—this spirit of abnegation—this devotion of his time and talents to the service of others, he, as became a disciple and worshipper of Carlyle, found his chiefest happiness. But such renunciation of self, so hard to ordinary mortals, was part and parcel of his constitution, and had its roots in his general kindliness of heart, and the love he felt for his fellow-creatures. His nature was a singularly simple one. What the King said to Laertes of Hamlet—that he was

> "Most generous, and free from all contriving;"

or what Iago admitted to himself of Othello—

> "The Moor is of a free and noble nature,
> That thinks men honest that but seem to be so"—

might with equal truth be declared of the subject of the present notice. Thinking no evil himself, he suspected none in others. That anyone should wantonly seek to do him an injury, or that he should resent it in kind, would have been incomprehensible to him. That obedience to the injunction to return good for evil is not an altogether impossible feat for frail human nature his life was a constant exemplification. His breast, therefore, which was an utter stranger to the small petty envies and jealousies of less noble natures, abounded in all the sweet and healing graces of charity.

But Dr. Kelly was more than an accomplished and successful gynæcologist and true Christian gentleman. He was a man of wide general reading and culture, with a keen interest in every movement that had for its object the enlightened progress and happiness of mankind. Especially would we mention the subject of University reform, of which he may be said to have been a leader. It has, indeed, always been an open secret that he was associated with one or two others in the production of that series of "University Pamphlets," which appeared some thirty years ago, and caused a considerable sensation in learned circles at the time. The daring criticisms they contained of the antiquated and worn-out methods of University government and teaching, and the bold and fearless views they expressed, greatly in advance of their day, were doubtless responsible for bringing about many of the much-needed reforms which have been given effect to since.

Nor was he wanting on the social side of life. No man relished better the friendly intercourse of his circle of intimates, or exerted himself more to contribute to their harmony and enjoyment from the best of his reading and thinking. And though, as we have already said, naturally of a serious turn of mind, bent on the improvement of the passing hour by the acquirement of knowledge and the perfecting of character, and not lightly given on his own initiative to be a purveyor of mirth, no one enjoyed more thoroughly the genuine humour of others, or more generously responded to it in rollicking explosions of healthy laughter.

For his kind and gentle disposition, his skill as a surgeon, his wise and genial comradeship, his staunchness as a friend, and his thoughtful helpfulness to those in adversity he will be greatly missed by a wide circle, while much sympathy will be felt for his widow and family who are left to mourn his loss.

GAVIN DALZELL HUNTER, M.B., C.M. GLASG.,
FLORIDA, TRANSVAAL.

Dr. G. D. HUNTER died in London on 29th March at the comparatively early age of 38. He had been sailing to and from South Africa as ship's surgeon in the service of the Union-Castle Steamship Company for several years on account of his health, which it was thought had latterly much improved, when on arriving in London towards the end of March he was seized with illness which terminated in two or three days in cardiac failure.

Dr. Hunter belonged to Glasgow and received his medical education at Glasgow University, graduating M.B., C.M., in 1896. After practising for a year as an assistant at Gisborough, he went to South Africa to act as substitute for his uncle, Dr. Dalzell of the Gordon Memorial Mission, Natal, while the latter was on furlough. Dr. Hunter took charge of the medical work at the mission station for a year, after which he returned to England to take up practice in Lincolnshire. The strain incident to increase of work began to tell on his health, and after practising for two years he was compelled to desist. He returned to South Africa and on his health improving he was appointed House Surgeon in the Johannesburg Hospital. He held this post till the war broke out, whereupon he served with the Uitenhage Volunteer Rifles and the Johannesburg Mounted Rifles. He afterwards went into partnership with Dr. Wright of Greytown, Natal, with whom he continued to practise till a change became necessary owing to the state of his health.

Possessed of a buoyant spirit and fine open manner, Hunter rapidly made friends and gained esteem. It is melancholy to think that a life so full of promise should be so checkered and abridged. A pathetic circumstance connected with his death is that a younger brother, Captain John B. Dalzell

Hunter, I.M.S., also a graduate of Glasgow University, was at the time on his way home on furlough from Seistan, in Persia, where he was Vice-Consul.

SURGEON-GENERAL H. SKEY MUIR, C.B., M.D.GLASG.

THE more senior officers of the Army Medical Service will realise with regret that they have lost another old friend in Surgeon-General H. Skey Muir, C.B., who died at his residence in London on 6th March in his 72nd year.

Henry Skey Muir, having first matriculated in 1859 at the London University, proceeded to Glasgow, where he passed two medical sessions. He entered Guy's Hospital in 1861, and these two schools therefore share the education of this distinguished medical officer. He took the M.D. degree at Glasgow in 1863, and later the diploma of M.R.C.S.Eng.

He entered the Army Medical School at Netley in 1864, shortly after the removal of that school from Fort Pitt, Chatham. On completion of the probationary period there he was posted to Nova Scotia, and subsequently was gazetted assistant surgeon to the 6th Foot (now the Royal Warwickshire Regiment), in which he served until 1877. Promotion to surgeon-major came in 1876, and the next year he proceeded to India. This tour of service included the second Afghan war in which he served. One of his experiences in this campaign was the march of the Kandahar column under Sir Donald Stewart up to Kabul. His services gained him the distinction of a mention in dispatches.

He afterwards visited the West Indies and the Cape, performed a second tour of Indian service, having charge of the important military hospitals at Lucknow and Aldershot, and holding the appointments of Principal Medical Officer of the North-Western District and of a district in India during a third tour in that country. In 1897 he became Principal Medical Officer in Egypt, where he was responsible for the medical organisation and arrangements of the British troops engaged in Lord Kitchener's expedition up the Nile. After thirty-four years of service he was selected for the appointment of Deputy Director-General of the Army Medical Service at the War Office. He held this post during the late war in South Africa, and, although he reached the age limit on 4th October, 1901, he was retained in his appointment until the end of that year, when he was succeeded by Sir

Alfred Keogh. At that time he was also a member of the Central British Red Cross Committee, which rendered such valuable aid to the sick and wounded in the Boer war. In 1900 he was created a C.B.

Surgeon-General Skey Muir devoted much of his spare time to the study of natural history, and was a Fellow of the Zoological Society.

CURRENT TOPICS.

University of Glasgow: April Graduation.—At the graduation ceremony on 21st April, 1913, the following received degrees in Medicine and in Science:—

DOCTORS OF MEDICINE (M.D.)

I. With Honours.

John Taylor, M.B., Ch.B. (1905), Captain, I.M.S.—Thesis, "The epidemiology of plague in Madras Presidency, India."

II. Ordinary Degree.

Alexander Ross Carmichael, M.B., C.M. (1886)—Thesis, "The influence and relations of innutrition as a factor in neurasthenia."

John Hannay Douglas, M.B., C.M. (1896)—Thesis, "Chronic interstitial nephritis."

DOCTORS OF SCIENCE (D.Sc.)

Williamina Abel, M.B., Ch.B. (1907), M.D. (Aberdeen)—Thesis, "The development and comparative anatomy of the sympathetic system in vertebrates, with additional papers."

George Henry Edington, M.B., C.M. (1891), M.D. (Glasgow)—Thesis, "Congenital occlusions of the œsophagus and lesser bowel in the human subject, with additional papers."

BACHELOR OF MEDICINE AND MASTER IN SURGERY (M.B., C.M.)

Andrew Phillips Aitken.

BACHELORS OF MEDICINE AND BACHELORS OF SURGERY (M.B., Ch.B.)

I. With Honours.

John Smith Knox Boyd.

II. With Commendation.

Henry Stanley Banks, M.A.
William Cameron Davidson.
William Muir Howells.
Frank Morton Robertson.
Richard Archibald Barlow, B.Sc.

III. Ordinary Degrees.

Cecilia Smail Turnbull Anderson.
Janet Rankine Anderson.
William Larmour Anderson.
James Law Brownlie.
Alexander Grahame Buchanan.
William Leonard Cassells, B.Sc.
John Connell.
Robert Craig, M.A.
Walter Elliot Elliot, B.Sc.
James Fraser.
William Fraser.
Alexander Glen.
James Lochhead Gregory.
James M'Farlane Grier, M.A.
Douglas Macinnes Hunter.
Jane Kerry M'Elroy Hunter.
John Ferguson Hutton, M.A.
Thomas Pollock Inglis.
Charles Joseph Kirk.
Mary Anne Kirk.
Peter Alexander M'Callum.
John M'Ghie.
Margaret Helen M'Killop.
Murdoch Hugh MacLeod.
John Henry Magoveny.
William Ebenezer Maitland.
William Montgomery.
James Leslie Ruthven Philip.
Sarah Anderson Jamieson Rankine.
Archibald Watson Russell.
James John Sinclair.
Neil Islay Sinclair.
James Anstruther Smith.
Roderick Alexander Steven.
George Taylor, M.A.
Ernest Graham Young Thom, M.A.
Angus Walker.
James Cairns Watt.
James Whiteside.
Andrew Morton Young.

BACHELORS OF SCIENCE (B.Sc.)

In Public Health.

Christina Barrowman, M.B., Ch.B. (1911)
Peter Russell M'Naught, M.B., Ch.B. (1908)

MATRICULATION ALBUMS OF THE UNIVERSITY OF GLASGOW, 1728 TO 1858.—In our issue for April, 1912 (p. 274), we referred to a work which the late Mr. Innes Addison, Registrar of the University, had then in preparation, viz., the University Matriculation Albums for the years 1728-1858.

The work, which forms a bulky volume, has just been issued by Messrs. MacLehose. As our readers will remember, Mr. Addison died last year with extreme suddenness. At the time of his death, however, he had not only completed the manuscript, but had seen the greater part of the work through the press. "The remainder of the task was," we are told by Professor Stewart in the biographical sketch which he has written for the volume, "entrusted to the capable hands of his daughter, Miss Addison, assisted by his senior clerk, Mr. John C. Ballantyne, to whose efficiency he not seldom bore emphatic witness."

The Matriculation Albums, the entries in which have been transcribed, do not contain a record of all who actually attended the University during the period covered. Matriculation was compulsory on "gown" students in the Faculty of Arts who intended to proceed to graduation, and on all students who desired a vote in the Rectorial Election, although the requirement was not rigidly enforced in either section. In the case of all other students it was optional. The Albums constituted the only record of students up to 1777-78, when the printed collection of prize lists begins. From 1794-95 onwards there is a regular series of printed class lists; but the limitations to "gown" students prevailed down to and including 1853-54. Other records, more or less complete, exist; but it was not till 1843-44 that *every* student was required annually to inscribe his name and other particulars in what was the precursor of the modern *Album*, which begins in 1859-60. Thus, previous to 1843 it is impossible to say, from an inspection of the records, that any one person was *not* a student of Glasgow.

Mere lists of names would convey but little. Accordingly, the author undertook the task of investigating the after-careers of the *alumni*. Although it was obviously impossible exhaustively to carry out this important task, a "gratifying measure of success" attended Mr. Addison's labours, and the details here furnished will undoubtedly realise his hope that they "may prove useful to some and interesting to others."

A *facsimile* reproduction of a page of the first Album is given in the early part of the volume, and an excellent photogravure of the author forms a frontispiece to the work.

By those who knew the faculty for painstaking with which the late Mr. Addison was endowed, the work will be appreciated as a reliable book of reference, and a fitting monument to his memory.

APPOINTMENTS.—The following appointments have recently been made:—

W. Doyle, M.B., C.M.Glasg. (1891), to be Certifying Factory Surgeon for the Colne District, co. Lancaster.

F. J. Henry, M.B., Ch.B.Glasg. (1901), to be Tuberculosis Medical Officer for Middlesbrough.

Ivy McKenzie, M.A., B.Sc., M.D.Glasg. (M.B. 1902), to be Visiting Physician to the Victoria Infirmary, Glasgow, *vice* Dr. John Love, resigned.

Anderson's College Medical School: Archibald Young, B.Sc., M.B., C.M.Glasg. (1895), to be Professor of Surgery, *vice* George Burnside Buchanan, B.A., M.B., resigned.

Indian Medical Service: The Government of India have been pleased to nominate Major James Currie Robertson to be an Additional Member of the Legislative Council of the Governor-General in India, *vice* the Hon. Sir Charles Stewart-Wilson, K.C.I.E., resigned. Major Robertson graduated M.B., C.M.Glasg. in 1894.

APPOINTMENT FOR DR. DEVON, OF H.M. PRISON.—The King has been pleased, on the recommendation of the Secretary for Scotland, to approve the appointment of Dr. James Devon, surgeon of H.M. Prison in Glasgow, to be a Prison Commissioner for Scotland, *vice* Mr. Thomas Dixon Marr Trotter Robertson, deceased.

Dr. Devon was born in Glasgow in 1866, and, after leaving school at the age of 10, he worked successively in a house factor's office, in a mill, in an iron foundry, and in an instrument maker's establishment. During this time he pursued studies with a view to entering the medical profession, and in 1893 he obtained the Triple Qualification (L.R.C.P. & S.Edin., and L.F.P.S.Glasg.). After spending some time as assistant in the Pathological Department of the Royal Infirmary, and also as house surgeon, he was appointed assistant medical officer in the City Poorhouse. In 1895 he became surgeon to Duke Street Prison. During his tenure of this office he devoted a great deal of attention to the subject of the reform of the criminal, and his published writings on the subject are widely known.

DR. LIVINGSTONE'S GRANDSON AND GRANDDAUGHTER.—In connection with the centenary of the birth of David Livingstone, it is interesting to note that on 18th March, the Livingstonia Committee of the United Free Church of Scotland appointed Dr. Hubert Francis Wilson and Miss Mary Ruth Wilson, grandson and granddaughter of the explorer, the one as a medical missionary and the other as a missionary to Livingstonia, to the station of Chitambo, the place where, it will be remembered, Dr. Livingstone died and where his heart is buried. Dr. Wilson, who received his medical education at Cambridge and Glasgow, and holds the degrees of B.C. and B.A.Camb., has just completed his term of office as house surgeon in the Glasgow Royal Infirmary.

BEQUESTS BY THE LATE DR. ROBERT POLLOK.—In order to give effect to the wishes of their brother, the late Dr. Robert Pollok, Laurieston House, Pollokshields, Glasgow, Miss Jeannie

Pollok and Mrs. Janet Gilchrist, who also resided at Lauriesston House, and who jointly succeeded to Dr. Pollok's estate, bequeathed free of all death duties (1) a bequest or legacy of £10,000 to the University of Glasgow for the purpose of founding a lectureship for research in materia medica and pharmacology, to be called the Dr. Robert Pollok Lectureship in Materia Medica and Pharmacology, and (2) a bequest or legacy of £10,000 to the Victoria Infirmary, Glasgow, for the purpose of endowing a ward to be called the Dr. Robert Pollok Ward. These bequests are directed to be paid after the death of the survivor of Miss Pollok and Mrs. Gilchrist, and so soon as the testamentary trustees find it convenient to do so. Mrs. Gilchrist died on 13th October, 1911, and Miss Pollok on 2nd ult.

TOTAL ABSTINENCE AND LONGEVITY.—The recently published annual report of the United Kingdom Temperance and General Provident Institution continues to illustrate the greater longevity associated with policies in the temperance as compared with the general section. The mortality on whole life policies for the year was as follows:—

	EXPECTED.		ACTUAL.	
	Claims.	Amount.	Claims.	Amount.
Temperance Section, .	515	£166,075	334	£101,518
General Section. . .	449	£153,878	380	£126,508

The foregoing figures refer only to whole life policies and the sum assured thereunder. They do not include bonuses. It seems desirable, however, to state that the mortality experience of all policies in the two sections and the amounts paid, including bonuses, were as follows:—

	Expected.	Actual.	Percentage of Actual to Expected.
Temperance Section—			
Claims, . .	740	437	59·0 per cent.
Amount, . .	£284,787	£188,467	66·2 ,,
General Section—			
Claims, . .	535	436	81·5 ,,
Amount, . .	£232,367	£190,383	81·9 ,,

OPHTHALMIA NEONATORUM: MEMORANDUM BY MEDICAL OFFICER OF HEALTH.—A memorandum by Dr. A. K. Chalmers, Medical Officer of Health, accompanies Dr. Florence Mann's report, on Ophthalmia Neonatorum, to the Health Department. The object of this Memorandum is to give prominence to some of the more important of her conclusions.

The report covers a period of seventeen months (1st August, 1911, to 31st December, 1912), during which 341 cases of the disease occurring within the boundary were notified. The original estimate placed the probable number annually at about 200, and the actual experience has shown this number to be 208.

Prevalence of the disease.—In relation to the number of live births the proportion of cases notified is equal to 9·4 per 1,000. There are no other figures readily available showing the incidence of the disease in a mixed community with which this rate may be compared, but it may be contrasted with rates prevailing in maternity hospitals and in the lying-in departments of poor law institutions in this country, in which special preventive methods are followed with different degrees of stringency:—

	Births.	Ophthalmia Neonatorum.	Per cent Ophthalmia.
British maternity hospitals, . .	35,815	79	0·22*
Provincial poor law lying-in departments in England, . . .	17,579	128	0·72*
Glasgow, ...	31,395	295	0·94

* Quoted from Dr. Sydney Stephenson's work on *Ophthalmia Neonatorum.*

The standard reached in the maternity hospitals may well form the objective of the work now being undertaken by the Health Department.

Presence of gonococcus.—In 31 per cent only of the cases was this organism recovered, but it is probable that as the methods of swabbing become more consolidated a higher proportion will be obtained. It is usually regarded as being present in about one-half the eyes affected.

Association with syphilis.—In fully 9 per cent of the cases both diseases were found in association, and in an interesting table, contrasting the results of the eye-affection in children with and without syphilis, Dr. Mann shows that of the non-syphilitic children 81 per cent made an absolute recovery from the eye-affection, contrasting with 48 per cent of the syphilitic; that defective vision resulted in 6 per cent of the non-syphilitic, but in 32 per cent of the syphilitic; while total blindness followed in 1·2 per cent of the former, but in 8 per cent of the latter.

The disastrous results which follow when syphilis is present could scarcely find a better illustration, and lend support to the suggestion recently submitted to the effect that the Health Committee should afford facilities whereby every medical practitioner may obtain a report as to Wassermann's reaction in any case in which he may deem it desirable.

The beneficial results of early treatment carried out systematically with trained help is well illustrated in the results of treatment in the earlier as compared with the latter admissions.

Five cases admitted within eight days of birth made complete recovery, as did 16 out of 26 admitted during the next two weeks. Of the 10 remaining, who were admitted during this period, 4 became blind in the right eye, 2 in the left eye, and 2 in both eyes, while 2 others had defective vision in the left eye.

Dr. Chalmers endorses the suggestions with which Dr. Mann closes her report. Briefly, these are (1) Ophthalmia Neonatorum should include "any inflammation of the eyes accompanied by discharge in the newly born," and should be notifiable within a certain number of hours after its appearance. (2) There is need for complete investigation of the circumstances and clinical conditions under which the disease occurs. The history of the labour becomes of great importance, and can only be usefully ascertained by the medical assistant herself visiting and making the enquiry. The nature of the organisms present in the non-gonococcal cases requires a detailed enquiry. (3) Compulsory removal to hospital should be insisted on where home treatment is useless. (4) The appointment of a consultant ophthalmic surgeon for cases of ophthalmia neonatorum. (5) The gratuitous distribution of some effective prophylactic solution to every physician or certificated midwife who applies for it.

CORPORATION OF GLASGOW: SUMMARY REPORT BY BACTERIOLOGIST FOR YEAR 1912.—We have just received the Summary Report of the Bacteriologist (Dr. R. M. Buchanan) to the Corporation of Glasgow for the year 1912. In the report, which was presented to the Health Committee on 22nd January, and is now reprinted from the Corporation Minutes of 6th February, Dr. Buchanan sets forth the year's work, mainly in tabular form. The first table shows the number of specimens submitted to the Bacteriologist by medical practitioners from suspected cases of diptheria, enteric fever, and tuberculosis: for comparison the figures for 1911 are also printed in the table. Examinations for diphtheria were carried out in 2,621 specimens, as compared with 2,489 in 1911. Positive result was obtained in 28 per cent of these (31 per cent in 1911). There were 585 examinations made for enteric fever (694 in 1911), and a positive result was obtained in 24 per cent (25 per cent in

1911). For suspected tuberculosis 2,235 specimens were examined (1,903 in 1911), and a positive result obtained in 31 per cent (32 per cent in 1911). The total figure for the three diseases was 5,441 (5,086 in 1911), with a positive result in 29 per cent (31 per cent in 1911).

In the next table is shown the total number of specimens from suspected cases of diphtheria, enteric fever, and tuberculosis, annually sent to the laboratory for diagnosis since the inauguration of this work on 1st January, 1900. With the exception of the years 1904-1905, and 1906-1907, the total number of such specimens has steadily gone up. As regards the figures for the individual diseases, the same is true for tuberculosis; but in enteric fever the number of specimens for different years has varied considerably. Thus, in 1901, 1,048 specimens were examined; in 1902, 807; and in 1903, 1,014. In 1907, the number fell to 613, rising in 1908 to 863, and gradually falling to 585 (in 1912). A similar variation, but in a much less degree, is observable in the figures for diphtheria for the years 1900-1905. In the last of these years the specimens submitted numbered 980; in 1906, they were 1,357, and from that year on they steadily increased till in 1912 they numbered 2,621.

The next part of the report deals with examinations of specimens from diphtheria contacts, from patients attending the tuberculosis dispensaries, and from suspected cases of ophthalmia neonatorum.

The systematic examination of diphtheria contacts began in March, 1906, and has been continued as far as possible. The number of contacts examined during 1912 was 1,100 (1,566 specimens), and the diphtheria bacillus was found in 164, or 14·9 per cent. The positive contacts comprise two groups of persons—(1) those found on careful examination to have some departure from normal health locally (throat or nose); or constitutionally (anæmia or disturbance of pulse or temperature); and (2) persons showing no departure from perfect health, either locally or constitutionally. A table shows the steady increase in the number of contacts examined, with the exception of the year 1911, when the number was over 260 less than in 1910. With the exception of the ten months of 1906 (the initial year), when the percentage of positive results was 10·5, the percentage of positives has steadily gone up, from 6·9 (1907) to 14·9 (1912).

As regards patients attending tuberculosis dispensaries, the report states that the Bellefield Dispensary was commenced in the Sanitary Chambers in the beginning of 1906. The other five tuberculosis dispensaries, viz., Broad Street, Duke Street, Oakbank, St. Vincent Street, and Nicholson Street, were instituted early in 1910. Govan Dispensary, instituted in September, 1912, is included only for the period since the extension of the city boundary. During 1912 these institutions, collectively, have yielded 963 specimens of sputum for microscopical examination, as compared with 750 in 1911. The tubercle bacilli was found in an average of 23 per cent; in 1911 the percentage of positives was 36.

With the introduction of notification of ophthalmia neonatorum on 1st August, 1911, suspected cases of the disease came under systematic laboratory diagnosis, and to facilitate the taking of specimens from the affected eyes a special equipment has been provided. In 1911 the total examinations numbered 48, and the positive results 22, or 45 per cent. In 1912 the number increased to 364, with positive results in 97, or 27 per cent.

In addition to examinations for the above-mentioned diseases, investigations of specimens of a miscellaneous nature were carried out for the Medical Officer of Health, the Sanitary Inspector, the Veterinary Surgeon, Baths Department, Water Department, and medical practitioners within the city. These investigations numbered 1,186, and comprised examinations for bilharziosis, anthrax, dysentery, favus, plague, bovine tuberculosis, &c.

During the year, 668 specimens of milk from cows with disease of the udder were submitted by the Veterinary Surgeon. In none of these was a positive result (bovine tuberculosis) obtained.

This compares very favourably with the year 1909, when, of 467 specimens submitted from country cows with disease of the udder, 24 gave a positive result (5·1 per cent), and of 125 specimens from town cows 4 were positive (3·3 per cent).

The report closes with an interesting table showing the result of the bacteriological examinations throughout the year of Loch Katrine water drawn from the Laboratory tap. In no one month did the bacteria average more than 38 per 1 c.c., and bacillus enteritidis sporogenes was absent in 10 c.c. and streptococci in 50 c.c. throughout the period.

The value of Dr. Buchanan's report to public health authorities, and others interested, can hardly be overestimated, and the admirable way in which its contents are arranged and set forth makes for easy reference.

GLASGOW ROYAL ASYLUM: REPORT OF THE PHYSICIAN-SUPERINTENDENT FOR THE YEAR 1912.—We have just received the ninety-ninth annual report of the Royal Asylum, Gartnavel. In the report by the Physician-Superintendent we find that there were 445 patients in residence at the beginning of the year, and 447 at its close. The total number under treatment was 573, and the average number resident, 451.

The admissions were 128 in number, as compared with 115 in the previous year. Fifty-four were men and 74 were women, an increase of female over male admissions which has been noted during the last ten years. Dr. Oswald does not advance any explanation of this, but, the patients being drawn from the middle classes, he thinks it is interesting, as possibly pointing to some stress to which women—many of whom earn their living at the same occupations as men—are now exposed, and which leads to a nervous or mental breakdown. The statistics of the Asylum from 1814 till 1912 show that of 18,175 admissions, 9,725 were men and 8,452 women, the increase of women over men having only occurred in the admissions of recent years.

In 34 of those admitted the illness had lasted less than three months, in 48 between three and twelve months, and in 42 over a year. In 32 there had been a previous attack of mental illness, and in 67 there was an inherited tendency to insanity or to one of the allied nervous states. Twenty-five were under 30 years of age, 52 between 30 and 50, while only 20—a much smaller number than usual—were over 60 on admission. Insanity is thus seen to be a disease of maturity, for 63, or 50 per cent of the admissions, were between the ages of 35 and 55. That it is peculiar to no age is shown by the fact that one of the admissions was a boy aged 15, and another an old woman aged 80. Both of these extremes were examples of true forms of mental disorder, and not of imbecility or senility.

In 15 cases the illness was due to alcoholic intemperance, in 21 to bodily ill-health, in 7 to the adolescent, and in 9 to the climacteric period of life, and in 16 to a previous attack. In enquiries into the causes of insanity, it is found that accurate information as to family and personal history is very hard to get. This is not always because of a lack of willingness on the part of the friends, but is rather owing to their ignorance of the earliest, and often the most important, signs of a mental illness. They fail to recognise them as such when they do occur, or if they do recognise them as abnormal, it is not as a sign of illness, but of temper and such like. Parents should be bound—especially where a child shows any tendency to move from the normal—to make a careful study of the condition during development, and to note facts which may afterwards be of the greatest value.

It is gratifying to record that 27 sought treatment voluntarily. Dr. Oswald showed some years ago that the percentage of recoveries was higher among voluntary than among certified patients, and this he attributed to the fact that they came under treatment earlier, and that their illness was milder in type. Such patients are usually acutely conscious of their own condition, and greatly appreciate the hope of recovery that is held out to them.

The number of discharges was 102, as compared with 89 in the previous year. Fifty—21 men and 29 women—recovered, 32 became so much better that they could return home, and 22 did not improve. The recovery-rate was 39 per cent of the admissions, as compared with a rate of 38·5 per cent for the whole of the Scottish Asylums. The proportion of recoveries to admissions, when the latter are entirely of the private class, as they are here, affords no real indication of the curability of insanity. Private patients, as distinguished from rate-supported or pauper patients, are frequently treated at home or elsewhere for long periods after the commencement of their illness, and considerations quite apart from the nature of the malady determine the mode of their treatment. The Asylum is only in such cases resorted to after all other means have failed, and often only when the disorder has passed beyond hope of cure.

The deaths were 24 in number, 17 males and 17 females, a percentage of 5·3 on the average number resident during the year. This compares with 8·7, the percentage of deaths on the average number resident in all Scottish Asylums in 1911. Organic brain diseases accounted for 9, pneumonia and phthisis pulmonalis for 6, and diseases of the kidney for 4. All were from natural causes, and in 19, or 80 per cent, the cause was confirmed by *post-mortem* examination.

The general health of the Asylum community was good, and there was no epidemic disease. There were two accidents, involving fractures of bones, but not serious in character. It was not found necessary to use restraint or seclusion, except in the case of one patient, a lady, who for the protection of others was secluded for a period of half an hour. There was one escape, the gentleman breaking his parole, and being brought back the following day.

During the year the medical staff carried out investigations into the nature of the condition known as *dementia præcox.* This is by many psychologists believed to be one of the commonest forms of mental disorder, and it is one of the most unfavourable in type.

During the past quarter of a century the most marked advances in medical science have been in the direction of the prevention of disease, and the problem of the prevention of insanity, one of the objects, be it noted, of a Mental Hospital, is probably not essentially different from that of the prevention of other diseases. A department of Mental Hygiene, having for its objects the after-care of discharged patients, the nature of the conditions—social, economic, and otherwise—in which insanity develops, and which would also educate the public as to the nature of mental diseases, the recognition of their early symptoms, and their prevention, would, in the charge of skilled workers, yield valuable information. Dr. Oswald suggests that such a department might with advantage be affiliated with the public health administration of a large city. The Mental Deficiency Bill—unsuitable as many of the provisions were to Scotland—promised a beginning in this prevention by checking the propagation of the unfit, and, in his opinion, the fears that it interfered too much with the personal liberty of the individual were unfounded. It had, however (with other Bills dealing with lunacy matters, and referred to in last year's Report) to be put aside owing to the pressure of other Government measures. We desire for Scotland a comprehensive measure dealing with the feeble-minded, and including some long-called-for amendments of the present Acts, such as the revision of their nomenclature by the substitution of more suitable terms for the words "lunatic," "pauper," and "asylum," the conferring of powers on District Boards to vote money for the prosecution of researches into the cause and prevention of insanity, and, if possible, the lessening of the legal formalities which have to be gone through before a patient can be received into a Mental Hospital.

Dr. Oswald is a firm believer in the efficacy of occupation and recreation as means of treatment and of distraction from morbid thoughts. The gardens give in summer occupation of the healthiest character to many of the gentlemen and to some of the ladies, while the more purely women's sphere of the kitchen, sewing-rooms, and laundry, is fully taken advantage of. This winter a highly successful exhibition of sewed work was held, and at present a class for the higher branches of embroidery is being carried on by a teacher from the Glasgow

School of Art. A fuller description of the amusements, and of the social side of the life of the hospital community, is given in the *Gartnavel Gazette,* a quarterly publication to which we have more than once had occasion to refer.

Dr. Oswald's report is followed by the usual medical statistical tables, and by the reports of the Commissioners in Lunacy (Drs. Macpherson and Marr). The Commissioners' reports are of a highly satisfactory nature, and reflect credit on Dr. Oswald's management of the Asylum.

NEW PREPARATIONS, &c.

From Messrs. The Bayer Co., Limited.

Phosphocose.—This is a liquid preparation, stated to contain a solution of somatose with 5 per cent sodium glycerophosphate. It is advanced for use in nerve disorders, and it is claimed that it creates appetite, improves digestion, and tones up the whole system. It is brownish in colour. and the taste is quite pleasant.

From Messrs. Burroughs Wellcome & Co.

"*Enule*" *Glycerine Rectal Suppositories.*—These suppositories have already been mentioned in these columns, but they are now put up in a new packing. Each suppository is wrapped in foil; thus wrapped they are enclosed in a glass bottle with screw cap, There is a smooth edge at the top of the bottle, which presses on a stopper of special composition contained in the cap. The bottle is thus rendered air-tight. Finally, the bottle is enclosed in a circular aluminised case, the lid of which is sealed with a band of paper. Thus there is a triple defence against deterioration. The suppositories contain 95 per cent of glycerine, solidified by means of a special base. This is a most elegant preparation.

MEETINGS OF SOCIETIES.

OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

MEETING V.—26TH FEBRUARY, 1913.

THIS meeting was held in the Pathological Institute of the Glasgow Royal Infirmary—the President, Dr. John Lindsay, in the chair.

PROFESSOR TEACHER gave a demonstration of gynæcological specimens illustrating various conditions, the most noteworthy being—Sections from the genital gland of a case of hermaphroditism, showing both ovarian and testicular tissue elements; specimens of ovarian pregnancy; and a specimen of a uterus showing ectopic pregnancy in a rudimentary Fallopian tube.

A lantern demonstration was also given on the embedding and development of the early human ovum. The Professor reviewed the present state of our knowledge of the subject, more particularly in relation to the work of Professor Bryce and himself.

The lecture was illustrated by numerous lantern slides, and by micro-projection of sections of the Teacher-Bryce ovum.

Dr. Teacher stated that this preparation still represented the earliest known stage of the human ovum, the only more recent specimen at all comparable in age being that of Young, of Edinburgh, which is apparently intermediate in development between it and the ovum of Peters', but probably abnormal. Several very valuable ova of about the age of Peters' have been found within the last five years, and the examination of these has confirmed and extended the discoveries due to that famous preparation.

Dr. Teacher also reviewed the position of the theories of the nature of menstruation, and its relation to ovulation and fertilisation.

The discussion which followed was taken part in by *Dr. Sloan, Dr. Oliphant, Dr. Munro Kerr, Dr. Marshall,* and the *President.*

REVIEWS.

Modern Wound Treatment and the Conduct of an Operation. By Sir GEORGE T. BEATSON, K.C.B., B.A., M.D. Edinburgh: E. & S. Livingstone. 1913.

A SURGEON may have a commanding presence, he may be a bold and dexterous operator, he may be warm-hearted and lovable; but if he have not asepsis he is "as sounding brass or a tinkling cymbal." It behoves everyone, therefore, who aspires to become a surgeon, to study the technique of wound treatment, without a knowledge of which he cannot hope to succeed. It would seem from the numerous works which deal with the subject that the importance of this matter has for long been recognised; but in view of its importance we can put up with a great deal of reiteration, in the hope that at no very distant date attention to antiseptic detail will become a matter of course.

In the little *brochure* which he has just written Sir George Beatson sets forth in detail the technique to be followed with the aim of securing an aseptic result. While there is nothing very new in the facts which he presents, Sir George deserves credit for his lucid exposition of them; and we venture to predict that anyone studying and following the directions here given cannot fail to secure, so far as is humanly possible, a happy result in his treatment of wounds.

Forensic Medicine and Toxicology. By C. O. HAWTHORNE, M.D. Third Edition. London: Edwin Arnold. 1912.

THAT a third edition of this well-known book should have been called for in such a relatively short time is ample proof of its usefulness, and Dr. Hawthorne is to be cordially congratulated upon the production of a handbook on the subjects which is at once concise, accurate, and eminently readable.

Naturally there is nothing striking or absolutely new in the pages, but the information has been brought well up to date, as exemplified by the notification of tuberculosis (p. 10), and the references to trional and veronal in the section on toxicology.

This is eminently a students' book, and for detailed explanations of the tests for poisons, &c., it is necessary to consult one or other of the larger text-books. Still, the student will find that the condensation which has been accomplished by leaving out details which are beyond the scope of the ordinary examinations on the subject is ample reward. Indeed, for students going up for examination, hardly anything better than Dr. Hawthorne's book is in existence.

There is still some tendency here to accept as correct the standard writings of others rather than the easily verified facts themselves. For example, on p. 36 it is stated that "*post-mortem* stains only appear after the lapse of several hours." In fact they may, under certain conditions, appear much earlier; indeed, to use an Irishism they may be present even *before* death. The explanation of their cause—which is correctly given by Dr. Hawthorne—accounts for this, and also for the *post-mortem* hypostases of the internal organs; this hypostatic condition being, as is well known, sometimes present during life, especially where there is long continued starvation combined with the dorsal decubitus.

The author's explanation of traumatic asphyxia or pressure stasis (p. 96) is not convincing. Complete inhibition of thoracic respiration is not dangerous so long as abdominal respiration is free, the danger being greatest when there is pressure interfering with the movements of the diaphragm.

The three illustrations are very poor; and, with the exception of that showing the spectroscopic appearances of various blood pigments, might have been omitted.

Students will heartily welcome Dr. Hawthorne's book.

Diseases of the Throat, Nose, and Ear, for Practitioners and Students. By W. G. Porter, M.B., B.Sc., F.R.C.S.Ed. Bristol: John Wright & Sons, Limited. London: Simpkin, Marshall, Hamilton, Kent & Co., Limited.

The author has aimed at providing the practitioner and student, in a volume of moderate size, with sufficient information to diagnose and treat the affections of the throat, nose, and ear, and we congratulate him on the result. In the short, pithy descriptions of the various diseases he has omitted nothing of importance. Major operations are not detailed, but otherwise the lines of treatment are concisely pointed out, and are thoroughly up to date.

The value of the book is enhanced by the excellent illustrations. In an appendix will be found the more common prescriptions used in the specialty.

We have every confidence in recommending the book as a thoroughly practical work, and feel sure that the practitioner who adds it to his library will find it of service.

Public Health Law. By W. Robertson, M.D., and A. M'Kendrick, F.R.C.S.Ed. Edinburgh: E. & S. Livingstone. 1912.

This is an exceedingly useful little book containing a summary of the public health laws of the United Kingdom. So long as the laws differ in the countries it must remain essential to have at hand a reference which gives the laws in each case with the variations in Scotland and England respectively. Why the two countries cannot settle their differences and adopt a unified code may seem inexplicable, but that does not concern us here, and the authors are to be congratulated upon the production of an eminently handy book of reference unemburdened with the full phraseology of the various Acts.

In the section on vital statistics the authors depart from the mere chronicling element, and give worked-out examples of the various methods of calculation employed. This is a particularly valuable section, and will be found very useful by the Public Health student. Similarly, the appendix, giving excerpts from various model bye-laws, will be found of special value.

Altogether, it may be said that this is a book which should be in the hands of everyone—not limited to the medical profession—who has to deal with Public Health matters dealing with the law on the subject.

The Medical Who's Who, 1913. London: The London & Counties Press Association, Limited.

This is a tastefully got up volume of convenient size, which is good in itself, but will doubtless become better still in later editions. The omissions appear to be very numerous, and this is doubtless due in great measure to the circumstance that many members of the profession have not sent in particulars because they thought that the volume was to contain a selected list of practitioners. As a matter of fact, the publishers announced some time ago that they intended to include the names of all members of the medical profession who made returns on the form sent. The publishers further state that "particulars are included free from any condition," and that no advertisements will be accepted which, in their opinion, will give offence to the medical profession.

The Pituitary Body and its Disorders: Clinical States Produced by Disorders of the Hypophysis Cerebri. An amplification of the Harvey Lecture for December, 1910. By HARVEY CUSHING, M.D. Philadelphia and London: J. B. Lippincott Company.

To most readers it will come as a revelation that so much can be avouched concerning the histology, physiology, pathology, and chemistry of this ductless gland; and it will be still more of a surprise to discover that it should have been permitted to one man (Dr. Cushing) and his co-workers to add so considerably to the sum of experimental knowledge, and to observe, report, and treat such a large number of cases of disease of the pituitary body.

It is now made clear that gigantism and acromegaly are dependent on hyperpituitarism of the pars anterior, the perverted or exaggerated secretion containing a hormone that accelerates skeletal growth—of the long bones if epiphyseal union is incomplete, of the acral parts if epiphyseal ossification has taken place. A remission of this functional disturbance may bring progressive gigantism to a termination by allowing of epiphyseal ossification, but a subsequent recrudescence, with resumption of the perverted functional activity, will then serve to superimpose acromegalic manifestations. Acromegaly, however, cannot precede gigantism; and in the later phases of acromegaly hyperpituitarism becomes frequently replaced by hypopituitarism.

To hypopituitarism in pre-adolescents we must attribute skeletal undergrowth, adiposity, infantilism, and genital dystrophy; and in post-adolescents adiposity, amenorrhœa, impotence, feminism, maxillary prognathism in contradistinction to the mandibular prognathism of acromegaly, high sugar tolerance, subnormal temperature, slowed pulse, asthenia, and drowsiness. These symptoms, in the main, are to be ascribed to a secretory inadequacy of the posterior lobe, and this same defect would seem to be responsible for epileptiform convulsions in a percentage of cases too large to be purely coincidental. Further, it is pointed out that the pituitary body, both when healthy and diseased, is closely inter-related with the other ductless glands.

Physiological and pathological hypertrophies are distinguished, and it is recognised that quite a number of extrapituitary tumours, which implicate the hypophysis, have arisen from some congenital anlage. It is interesting to find that in none of the author's cases except one was acromegaly associated with a heteroplastic tumour, while manifestations of primary hypopituitarism always accompanied such.

Treatment is discussed at some length, and the author tabulates forty-three cases where operative measures were resorted to. In hypopituitarism the administration of glandular extracts to make up the deficiency is indicated. In hyperpituitarism partial extirpation of the hyperplastic gland is called for, the transphenoidal approach, with sublabial incision and submucous septal resection, being preferred; or else, or in addition, the employment of x-rays after a preliminary subtemporal decompression. Where the relief of pressure symptoms alone is clamant, a sellar or subtemporal decompression would seem to be sufficient.

This is a most interesting, instructive, and exhaustive monograph. It is exceptionally well illustrated with beautifully executed photographs and radiographs of patients and specimens. An extensive bibliography and an elaborate index bring to a conclusion what is, and may long remain, the standard work on the pituitary body and its disorders. We have much pleasure in recommending it.

Consumption in General Practice. By H. Hyslop Thomson, M.D., D.P.H. Second Edition. London: Henry Frowde and Hodder & Stoughton. 1912.

Dr. Hyslop Thomson has aimed at providing a concise study of the present-day problem of consumption as it presents itself in general practice, and has admirably succeeded. Here will be found exactly what a practical man of wide experience has come to believe about the prevention, diagnosis, prognosis, and treatment of this disease and its complications. The personal note is dominant throughout. A carefully compiled index affords ready access to the contents of this work, which we cordially recommend as a reliable guide to the practitioner that would be conversant with modern methods and thought.

Tuberculin Treatment. By CLIVE RIVIERE, M.D. Lond., F.R.C.P., and EGBERT MORLAND, M.B. and B.Sc. Lond., M.D. Berne. London: Henry Frowde and Hodder & Stoughton. 1912.

THE discrepancy between the method of Wright and that of Koch has done much to shake belief in the efficacy of this remedy, and the attitude of the two opposing camps to one another has not been calculated to make for confidence. The writers of this work have for long clearly recognised not only the reality of the favourable results in localised tuberculosis with small infrequent doses, but also the absolute necessity of employing large frequent doses to obtain comparable effects in phthisis pulmonalis—in short, it has been evident to them that the two procedures are not antagonistic but complementary, that each is successful in its own sphere. It follows, then, that we have here an account of the whole field of tuberculin treatment in correct perspective, so that it may be appreciated at its proper value, "not, indeed, as a panacea for all the baleful effects of Koch's bacillus, but as a specific remedy capable, if properly used, of doing good in most manifestations of tubercular disease." Charts and diagrams are plentiful and illustrative. The confusion arising from the number and variety of preparations of tuberculin on the market is explained away. The mental difficulty of grasping the dosage in its various guises is recognised and removed. The authors are always concise and lucid, and never depart from their aim—to take tuberculin treatment out of the field of doubt and controversy, and to place its principles and practice alike on a firm basis. Altogether we have found this a most helpful book.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

EDITED BY ROY F. YOUNG, M.B., B.C.

MEDICINE.

Treatment of Hæmorrhage by Precipitated Blood Serum. By G. H. Clowes, M.D., and F. C. Busch, M.D., *New York Medical Journal*, 4th January, 1913.—The writers begin this article by discussing the variety of causes which may cause persistent hæmorrhage from a small vessel and the mechanism of blood coagulation, together with a number of ways by which, under pathological conditions, that coagulation may be retarded or entirely prevented.

It has long been known that fibrin clot results from the coagulating influence of thrombin or fibrinogen in the presence of calcium. There has been considerable speculation regarding the origin of thrombin, or fibrin ferment, as it is more commonly called, and the forces which under normal conditions result in the liberation of this body from its precursors in the blood when a blood-vessel is sufficiently injured to cause hæmorrhage. Howell has demonstrated that retardation or suspension of clotting is frequently due to the action of a body called antithrombin, which neutralises thrombin, and that it is only after the removal of antithrombin, or the addition of more thrombin, that coagulation can be induced under such circumstances. The writers state that practical experience would indicate that in the majority of cases of pathological hæmorrhage thrombin is not liberated in sufficient quantity or rapidly enough to produce the required clot.

That a rational therapeutic measure would be the introduction into the system of a supply of the ferment by which normal coagulation takes place. That normal serum, from whatever source, contains large quantities of this ferment, and that the administration of serum, either locally or subcutaneously, has been found to give excellent results in the hands of many observers.

In their early experiments serum freshly separated from the blood of rabbits or human beings was used with satisfactory results. Considerable difficulty was experienced, however, in procuring blood serum when required in an emergency; for even when taken with the greatest precaution and preserved sterile in a refrigerator, it rapidly lost its efficiency as an agent for checking hæmorrhage. To obviate this difficulty they attempted to apply certain principles regarding the precipitation and conservation of enzymes which had been previously worked out by Clowes in his researches on the enzyme of yeast. In these researches, part of which are still unpublished, Clowes modified the method of Buchner and used a mixture of acetone and ether as a precipitating agent, and the present writers found this latter method peculiarly suitable to their needs, as after numerous experiments they succeeded in precipitating from the blood serum an anhydrous sterile powder which was freely soluble in water and contained fibrin ferment in relatively large proportions and in a concentrated form. They give full particulars of their method of preparation of this powder, and state that, as far as they are able to judge from preparations made two years ago, it retains its active principles unimpaired for long periods of time.

In upwards of a hundred and fifty cases of hæmorrhage thus far treated, products from the precipitated sera of human beings, horses, and rabbits have been used, prepared by the above method. Recently those from horse serum alone have been utilised, and the types of hæmorrhage treated have included that from gastric ulcer, duodenal ulcer, pulmonary hæmorrhage, and that following prostatectomy.

The fear that anaphalactic reactions might result from the use of sera of animals has, in their experience of upward of a hundred cases treated, many of them repeatedly, with the sera of horses and rabbits, proved groundless.

Twenty-one cases are reported more or less in full, and the writers also describe a method which they have evolved by which the relative activity of sera can be estimated. They admit that such methods carried out, of necessity *in vitro*, are not always reliable tests of the efficiency of the materials tested *in vivo*, but have noted that these preparations give results which correspond accurately with the results gained from the test-tube method of judging their efficiency.

They also noted that serum heated to 60 centigrade has no action in coagulating citrated plasma, from which they conclude that the action of their product in checking hæmorrhage is probably due to its content of fibrin ferment.

A table showing the relative value of serum prepared in different ways and preserved for different lengths of time and of fresh serum is also given.

There is also a short discussion of the theoretical considerations of the power of the precipitated blood serum to cause increased coagulability of the blood, and finally the following conclusions are tabulated :—

1. Blood serum is found to be of considerable value in all conditions in which hæmorrhage is due to lowered coagulability of the blood.
2. Human serum is in no way superior to that of a variety of animals.
3. Blood serum precipitated by acetone and ether is fully as effective as fresh serum, if not actually superior to it. Precipitated serum is freely soluble, and possesses the advantages of being sterile, always available, and retaining its capacity indefinitely.
4. The product obtained from horse serum appears to yield more uniformly satisfactory results than that obtained from other animals, and exerts no deleterious effect.
5. The determination of the rapidity at which sera and solutions of precipitated sera at comparative dilutions cause coagulation of citrated blood plasma affords a simple means of estimating the relative activity of the preparations in question.—JAMES R. C. GREENLEES.

SURGERY.

The Technique of Suprapubic Prostatectomy. By Jaques Goldberger, Budapest (*Zeit. f. Urologie*, Bd. VII, H. 2, 1913).—When the subject of suprapubic prostatectomy was so much to the fore in recent times it is noteworthy that the question of anæsthesia for this operation received but scant attention.

General anæsthesia is, of course, the most convenient for the operator, but has drawbacks with regard to the patient—ether has ill effects on the respiratory, and chloroform on the circulatory, system. That the effects of general anæsthesia have a marked influence on the mortality following prostatectomy is shown by statistics in recent literature, where the deaths due to anæsthesia constitute from 50 to 70 per cent of all the fatal cases.

To do away with the dangers of general anæsthesia has, therefore, become a clamant necessity.

Spinal anæsthesia in a patient of advanced age is impracticable for anatomical and physiological reasons.

Recourse must, therefore, be had to local anæsthesia, and the procedure, as modified by Chevassu, is as follows:—After an examination of the general condition of the patient, particular attention is given to the kidneys and bladder. On the day before operation the skin of the parts is shaved, and washed with soap and water. The patient is brought to the table, the abdomen is painted with iodine, the buttocks are raised, and a catheter is passed. The local anæsthetic used is novocain (1 in 200), without addition of adrenalin.

Layer by layer the tissues of the abdominal wall are anæsthetised, and incised in the middle line. The bladder, when exposed, is filled with air through the catheter, and the peritoneum is retracted upwards. The bladder wall is anæsthetised and incised, the edges being held open by sutures, and the catheter is withdrawn.

For the actual enucleation of the gland there must be short, safe general anæsthesia, and for this purpose ethyl chloride is administered. This part of the operation should occupy, at most, three minutes. The index and middle fingers of the right hand are inserted in the bladder, while the fingers of the left hand, introduced into the rectum, push upwards. The finger nails of the right hand have been previously cut to a given shape, and with these the enucleation is completed.

The prostate cavity is vigorously massaged by the fingers of the left hand, a catheter is re-introduced, guided by the fingers in the bladder, and then follows irrigation with hot, sterile water. The catheter is left in position for four days.

The author afterwards proceeds to discuss his statistics, and draws conclusions very favourable to the procedure described.—CHARLES BENNETT.

Malignant Tumours of the Testicle: Sarcoma and Adenocarcinoma.

By Dr. Arnaldo Vecchi (*Zeit. f. Urologie*, Bd. VI, H. 12, 1912).

Sarcoma.—If from the group of sarcomas of the testicle the frequently occurring large cell tumours, which Ehrendorfer and others have looked upon as alveolar sarcomas, are excluded, then sarcoma of the testicle is rare. The author has met with twenty-four large cell tumours and ten mixed and embryoid tumours of the testicles, but only two which could be called sarcoma.

Case P.S., 48 years of age, a tailor. The patient began to observe about six months previously that the right testicle had increased in size. For some weeks subsequently the swelling continued to increase without inconvenience. Two months before he came under observation the left also began to swell, and increased rapidly, and, still later, a continual dull pain began in both testicles, worse in the right, radiating to groins and thighs.

On examination, patient was well nourished; no fever. Nothing worthy of note, except swellings in the scrotum. No sign of tumour formation elsewhere, and no enlargement of glands. Scrotum occupied by two large tumours. The skin tense, showed marked vascularity, and was freely movable over the tumours.

30th July, 1908.—Removal of both tumours. On examination of the masses the tunica vaginalis was found thickened and hyperæmic; in the right it was overgrown by the new growth, but in the left only at one small spot.

The right weighed 510 grammes, and the left 250 grammes. Differentiation of testicle and epididymis distinct. Both on section reddish, whitish-grey in colour, with yellow or brown zones. Numerous enlarged blood-vessels standing out. Tunica albuginea not greatly thickened. No trace of testicle or epididymis visible. Spermatic cord normal in the right, but attacked for about 3 cm. in the left by the tumour.

Microscopical examination.—Both new growths identical. Neoplastic tissue consisted of a dense fibrous network, with cells in the meshes. Cells always roundish, even where closely packed; never polygonal, and 8 to 12 μ in diameter. They each have a large round nucleus, rich in chromatin and with abundance of granular protoplasm. No cell wall made out. Mitotic figures frequent. Vessels numerous, the larger with thick adventitia, the smaller in direct contact with neoplastic elements.

No traces of normal testicular tissue found, but altered seminal ducts are observed with neoplastic elements grouped round them like muffs, thus causing gradual destruction of their walls, and, later, of the epithelial lining.

Adenocarcinoma.—This discussion deals with a malignant tumour which attacked the testicle, the epididymis and the spermatic cord, most probably taking its origin from the derivatives of the Wolffian body.

Case L. J., 68 years of age, a mason. The patient noticed since childhood that the right testicle remained in the inguinal canal. At puberty this organ increased in size, but not as quickly as the left, and, moreover, the right was softer.

Five months previously, without apparent cause, the right testicle began to swell, and this was accompanied by pains shooting down the groin and to the haunch. During the few weeks before examination the swelling increased rapidly.

Examination showed a swelling in the right inguinal region. Lymphatic glands not affected.

Operation (4th November, 1909).—Removal of the tumour which affected the testicle, epididymis, and the lower part of the spermatic cord. It lay above the external inguinal ring, deeply sunk in the canal. It was easily disengaged from the surrounding tissues to which it adhered loosely.

Pathological-anatomical condition.—The mass was irregular, and had as greatest measurements 7 cm., 3 cm., 2·5 cm. Surface smooth, rosy-white in colour, and with small protuberances. Consistence generally fibrous, except where it corresponded to the testicle, and here it was fleshy. Resistance offered to the knife but no grating. Cut surface greyish-white and of a homogeneous fibro-fasciculous appearance. No cysts and no areas of softening.

Microscopic examination showed the tumour to consist of epithelial elements in tubules surrounded by connective tissue stroma.

The epithelial cells forming the tubules were cylindrical and cubical, with abundance of granular protoplasm. The nucleus large and rich in chromatin. In the cubical cells it was round, in the cylindrical it was oval; the nucleus usually at the centre of the cell. Many individual cells with very large nuclei. Karyolysis and karyorhexis sometimes made out while mitotic figures common.

The cells did not rest on a basement membrane but upon the stroma which was densest at the tubules. The cells in the same tubule not always of the same length, so that the tubule lumen lay eccentrically.

Sometimes the epithelium was in two or more layers. The tubules were single or in groups of two, four, or six; never more. No cystic formation anywhere made out.—Charles Bennett.

The Mechanical Treatment of Hip Disease (*American Journal of Orthopedic Surgery*, February, 1913).—Three authors discuss aspects of this subject.

Geo. B. Packard says that the objects of this treatment are to diminish the activity of the diseased process and to prevent deformity—notably flexion and adduction. He thinks that primary acetabular disease is more common than was formerly supposed. There are reasons why treatment should not be routine, but should be directed to suit the individual case. The author recommends traction, and it should be a combination of longitudinal and lateral, the resultant pull being in the line of the femoral neck.

Weight-bearing is useful to obtain ankylosis, but ankylosis should not always be aimed at, as in some cases functional recovery of the joint may take place. In bilateral disease there should be neither weight-bearing nor traction, as it is of the utmost importance to preserve movement in even one joint.

The author uses the traction brace for two or three years, and if at the end of that time there is no probability of recovery with movement he then adopts weight-bearing with a view to ankylosis.

H. L. Taylor gives results after mechanical treatment (without traction) and hygiene. He details the routine treatment in the New York Post-Graduate Hospital:—The Phelps brace is worn night and day. Patient is allowed to walk with crutches, there being a high shoe on the sound foot. Very young children wear the long plaster spica. Five or six months are spent at the Fresh Air Home. There may be at first a few weeks of moderate traction (5 to 8 lb.) until sensitiveness, muscular spasm, and all active symptoms have subsided.

The author presents seven cured cases—five boys and two girls—one with bilateral disease. In all the disease is arrested, there being only stiffness, atrophy, and lameness. The patients' limbs show shortening, varying from half an inch to 3 inches. Both girls developed genu valgum.

E. H. Bradford discusses the great difficulties of procuring absolute fixation of the wriggling child. He shows by model experiments with dolls the value of a combination of the Thomas knee-splint and a traction attachment, adding to it a means of counter-pressure on the pelvis, not only on the affected side but also on the opposite side, thus checking the tendency to adduction deformity.

The apparatus is in use at the Boston Children's Hospital.

—Charles Bennett.

DISEASES OF CHILDREN.

Vaccine Therapy of Whooping-Cough. By Arrie Bamberger, M.D. (*Amer. Jour. of Child. Diseases*, January, 1913, p. 33).—Author reports a series of six cases treated with Parke, Davis & Co.'s stock vaccine of Bordet's and Gengou's bacillus. Doses of 20 million bacilli repeated every other day, but larger doses of, say, 500 million bacilli and given every day are recommended. The treatment seemed to lessen the severity and frequency of the spasms and the duration of the illness. The cases belonged to the poorer classes of society and yet complications were absent. The number of doses varied between five and fifteen, the paroxysms thus disappearing after thirteen to thirty days of the treatment.—Leonard Findlay.

Fat and Nitrogen Metabolism in a Case of Congenital Absence of the Bile-Ducts, with a Study of Ferments of the Pancreatic Secretion and the Fæces. By Henry Koplik, M.D., and Burrill B. Crohn, M.D. (*Amer. Jour. of Child. Diseases*, January, 1913, p. 36).—The nitrogen metabolism was normal, while the fat metabolism was greatly disturbed, being characterised by poor absorption and deficient splitting of neutral fats.

The pancreatic ducts were patent, and the secretion was of normal strength. The lipolytic ferment of the fæces, while present, performed its function weakly on account of the absence of bile-salts, which normally accelerate its enzymotic activity.—Leonard Findlay.

On the Cause of the Persistence of Gonorrhœal Vulvovaginitis in Children. By I. C. Rubin, M.D., and J. S. Leopold, M.D. (*Amer. Jour. of Child. Diseases*), January, 1913, p. 58).—From a fairly extensive study of the disease the authors' conclude that the following are the causes of the chronicity of gonorrhœal infection in children:—

1. The invasion is more violent and more extensive owing to (*a*) the close proximity of the portals of entry, and (*b*) the tender mucosa and epidermis.
2. Once started the infection practically develops in a closed tube due to

the constriction of the perineum and external and internal genitals. Each segment of the vagina, from most superficial to the deepest part, serves as a valve to dam back the discharge in consequence of close approximation of the vaginal walls.

3. Crypts and adhesions, in which bacteria lodge, form in vaginal mucosa.
4. The vaginal portion of the cervix shows the deepest changes, and is at the same time in the most disadvantageous position for drainage and treatment.

These authors have not found vaccine therapy of any value, and commend the thorough application of local remedies by means of an electric-lighted female urethroscope.—LEONARD FINDLAY.

On the Influence of Bile-Salts on the Gonococcus. By Adam v. Karwowski (*Dermatol. Wochenschrift*, 1912, No. 55, p. 1059; *Zeit. f. Kinderheilkunde*, 1912, Bd. IV, p. 3).—Owing to the fact that in a case of gonorrhœa the discharge considerably lessened on the development of jaundice, the author suggests that this affection might be treated with advantage with bile-salts. He states that experimental and clinical observations of Löhlein are in favour of this line of treatment.—LEONARD FINDLAY.

Streptococcal Vulvo-vaginitis in Children. By Bodo Slingenberg (*Monab. f. Seburtsh, Frauenkrankheiten und Kinderheilkunde*, 1912, No. 1, p. 236; *Zeit. f. Kinderheilkunde*, 1913, Bd. IV, p. 264).—Two cases, aged 5 and 14 years respectively, are recorded. In each the discharge was abundant and gave a pure culture of streptococcus. Author recommends treatment with 2 per cent solution of silver nitrate.—LEONARD FINDLAY.

Two Cases of Pneumococcal Vulvo-vaginitis in Children. By Harold Chapple, M.D. (*The Lancet*, 1912, p. 1685).—The patients were aged 11 and 13 years. The affection was sudden in onset and discharge was profuse—greenish-yellow in colour, and of creamy consistence. The inflammation chiefly affected the vulva. There was no urethritis and no trouble with micturition. Treatment adopted was rest in bed, douching with permanganate of zinc, and also the use of an antogenous vaccine. In view of the frequency of pneumococcal peritonitis, the author insists on early diagnosis and prompt treatment.—LEONARD FINDLAY.

DISEASES OF THE EYE.

Discussion on the Physiology of the Intra-ocular Pressure. Report of the discussion in the Section of Ophthalmology, Royal Society of Medicine, held on 4th December, 1912, and 5th February, 1913, opened by Professor Leonard Hill and Professor E. H. Starling (*Proceedings Roy. Soc. of Med., Sect. of Ophthalmology*, January and March, 1913).

PROFESSOR HILL, in opening the discussion, stated that the recent researches by Dr. Flack and himself into the relation of the circulation to secretion had led them to investigate the eye, and that the results of the investigation had already appeared in the *Proceedings of the Royal Society*. The intra-ocular pressure was measured by a specially designed needle and by the compensatory method devised by himself for his researches into the brain pressure. They obtained readings varying from 16 mm. to 62 mm. Hg., with an average of 30 to 40 mm. Hg. They accepted the common theory that the aqueous is secreted by the ciliary processes. Previous experiments have proved that the pressure of the vitreous is equal to the pressure of the aqueous. As there is nothing in the walls of the capillaries and of the veins to hold them open under the intra-ocular pressure, they maintained that the capillary venous pressure in the ciliary processes is practically the same as the pressure of the aqueous, while the latter is the same as the pressure in the veins at the exit from the inside of the eyeball.

If the cornea of a cat's eye be punctured and the aqueous allowed to escape, gentle pressure on the belly of the cat causes hæmorrhage from the capillaries of the iris in the operated eye. Dr. Hill's explanation is that the aqueous pressure exactly counterbalances the capillary pressure, and that the pressure on the abdomen raises the arterial pressure, and thus the capillaries at once burst in the absence of the normal support. The osmotic pressure of the aqueous is said to be higher than that of the serum. If fluorescin is injected so that the blood contains one part in 20,000, then there will be found one part in 400 in the urine, and one part in a million in the aqueous fluid, which indicates that it is not concentrated in the aqueous, and that the aqueous is not secreted and absorbed rapidly.

The remainder of the paper is taken up with a consideration of the fluid of the eyeball in relation to the accommodation. The work of Thomson Henderson and Arthur Thomson is drawn upon to support the view that during accommodation the aqueous displaced by the increased curvature of the anterior lenticular surface passes into the spaces of the cribriform ligament. These spaces he held to be opened up by the contraction of the circular and inner radiating fibres of the ciliary muscle, and closed by the action of the meridional fibres. From a mathematical calculation based on the changed curvature of the lens, Twort had found for him that the amount of fluid which passes is 10 c.mm.

Mr. R. Donald demonstrated drops of the size of 10 c.mm. by a very ingenious dropper designed by himself.

Professor Starling agreed with most of the facts brought forward by Dr. Hill, but could not accept his interpretation of the experimental results. He agreed that the intra-ocular fluid is produced by the ciliary processes and absorbed at the root of the iris. Well-marked columnar or cubicle cells cover the processes, not unlike those of the salivary gland and of the kidney. They are derived from the optic cup, and therefore nervous in origin. He said they may be either regarded as having changed in function and become secretory, or as a support to the capillaries, modifying the filtering membrane through which the transudation of fluid into the eyeball takes place.

Many experiments by different workers, including Dr. Hill, proved that the intra-ocular pressure varies with the blood-pressure. When the latter is raised the intra-ocular rises proportionately, and remains as high as long as the blood-pressure remains high. On the other hand, on cutting off the blood-supply to the eyeball, the intra-ocular pressure rapidly falls and the eyeball becomes flaccid. He had found in a normal unanæsthetised animal the intra-ocular pressure on the average not more than 25 mm. Hg., and a similar figure had been given by over a dozen workers. He could not agree that the pressure in the capillaries and veins of the eyeball was practically equal to the intra-ocular pressure.

A filtration scheme was demonstrated showing that the pressure in the capillaries must be greater than in the veins, or the blood would not flow from them to the veins. On account of the slower velocity in the capillaries the lateral pressure of the walls must be greater than in the veins. The wall of the capillary was 3 or 4 μ in thickness, and surrounded a lumen of 7 μ in diameter. It should be able to withstand a considerable pressure. We are not justified therefore in denying a difference of pressure between the blood in the capillaries, in the veins, and in the intra-ocular pressure. He had performed experiments and discovered that the rate of absorption, and consequently also of production, of the aqueous was 12 c.mm. per minute.

The aqueous contains nearly all the salts of the plasma, but is almost entirely free from protein. The slightly increased molecular concentration of the intra-ocular fluid as compared with blood plasma might be ascribed to metabolites produced by the cells. But to assume that the process is one of filtration there must be a minimum difference of pressure of about 30 mm. Hg.

between the blood in the capillaries and the intra-ocular fluid. There is a difference of pressure of 70 to 90 mm. Hg. between the blood in the large arteries and the intra-ocular fluid ; but it is impossible to say how much of this pressure in the arteries is transmitted to the capillaries of the ciliary processes. It is therefore impossible to give crucial proof of the filtration hypothesis. "But the strict parallelism which exists between the blood-pressure and the intra-ocular pressure . . . show us the ultra-ocular fluid merely as the result of balanced mechanical forces ; and at the present time there is no evidence of any other processes, and we are not justified in assuming that the epithelium covering the ciliary processes acts otherwise than passively in strengthening or modifying the qualities of the filtration membrane."

When the blood-pressure is permanently raised channels of exit appear to develop as the intra-ocular pressure does not continue permanently raised under these circumstances. Experiments with atropine and eserine on the rate of absorption showed no effect at normal pressure, but at increased intra-ocular pressures there was a corresponding advantage with the eserine.

MR. PRIESTLEY SMITH said that the pulsation of the central vein of the retina showed that only at the exit from the eyeball was the venous pressure equal to the chamber pressure. In the majority of cases this did not occur, because the former was slightly greater than the latter. If there was a fall of 70 mm. Hg. of pressure from the entrance of the arteries to the exit of the veins, where did it occur? In the capillaries the pressure might even be greater than in the arterioles. The eye was not perfectly rigid, as it could be dimpled.

MR. MARTIN FLACK elaborated and supported the arguments of Professor Hill. He acknowledged that there was a slightly greater pressure in the capillaries than in the veins.

DR. THOMSON HENDERSON also supported Dr. Hill's position. Schlemm's canal he had proved by serial section to be a venous sinus. If it was a mere filtration, why did the fluid not take the direct route into the anterior chamber from the ciliary processes. Two mm. of Hg. pressure on the globe was sufficient to produce venous pulsation at the exit from the eyeball.

MR. HERBERT PARSONS thought Dr. Hill obtained such high intra-ocular pressures by using too large a needle and not allowing for the displacement. Various immune bodies entered the aqueous, while others were kept back, showing the cells had some selective action. No other explanation could be given of the differences.

Professor Starling and Professor Hill replied to the discussion, which should be carefully read in the original.—W. B. INGLIS POLLOCK.

Books, Pamphlets, &c., Received.

Practice and Problem in Abdominal Surgery, by A. Ernest Maylard, B.S. Lond. With 39 illustrations. London : J. & A. Churchill. 1913. (8s. 6d. net.)

The Bradshaw Lecture on the Biology of Tumours, by C. Mansell Moullin, M.A., M.D.Oxon., F.R.C.S. Published by request of the Council of the Royal College of Surgeons of England. London : H. K. Lewis. 1913. (2s. net.)

Eye Strain in Everyday Practice, by Sydney Stephenson, M.B., C.M.Edin., D.O.Oxon., F.R.C.S.Edin. London : The Ophthalmoscope Press. 1913. (3s. 6d. net.)

Sclero-Corneal Trephining in the Operative Treatment of Glaucoma, by Robert Henry Elliot, M.D., B.S.Lond., Sc.D.Edin., F.R.C.S.Eng., &c., Lieut.-Colonel, I.M.S. London: George Pulman & Sons, Limited. 1913.

The Bacterial Diseases of Respiration, and Vaccines in their Treatment, by R. W. Allen, M.D., B.S.Lond. London: H. K. Lewis. 1913. (6s. net.)

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The Labyrinth: An Aid to the Study of Inflammations of the Internal Ear, by Alfred Braun, M.D., and Isidore Friesner, M.D. With 50 figures in the text, and 34 half-tones on 32 plates. London: Rebman, Limited. (17s. 6d. net.)

Diseases of Children, by Various Authors, edited by Archibald E. Garrod, D.M., M.A., F.R.C.P., F.R.S., Frederick E. Batten, M.D., M.A., F.R.C.P., and Hugh Thursfield, D.M., M.A., F.R.C.P. Illustrated. London: Edward Arnold. 1913. (30s. net.)

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The Difficulties and Emergencies of Obstetric Practice, by Comyns Berkeley, M.A., M.D., B.C.Cantab., F.R.C.P.Lond., M.R.C.S.Eng., and Victor Bonney, M.S., M.D., B.Sc.Lond., F.R.C.S.Eng., M.R.C.P.Lond. With 287 illustrations. London: J. & A. Churchill. 1913. (24s. net.)

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GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FOUR WEEKS ENDED 19th APRIL, 1913.

	Week ending			
	Mar. 29.	April 5.	April 12.	April 19.
Mean temperature, . .	42·0°	44·9°	42·3°	43·7°
Mean range of temperature between highest and lowest,	13·7°	16·8°	15·7°	12·2°
Number of days on which rain fell, ...	2	3	3	6
Amount of rainfall, . ins.	0·39	0·14	0·57	1·52
Deaths registered, . . .	347	364	342	337
Death-rates, ...	17·6	18·7	18·0	17·3
Zymotic death-rates, . .	2·0	1·7	1·7	1·8
Pulmonary death-rates, .	5·0	4·6	3·8	4·8
Deaths—				
Under 1 year, . . .	73	73	70	58
60 years and upwards, .	93	102	94	92
Deaths from—				
Small-pox, ...	...	...	...	...
Measles, ...	4	4	5	8
Scarlet fever, . . .	2	2	1	1
Diphtheria, ...	3	3	5	2
Whooping-cough, . .	29	22	25	23
Enteric fever, ...	1	1	...	2
Cerebro-spinal fever, . .	2	...	...	...
Diarrhœa (under 2 years of age),	9	8	5	6
Bronchitis, pneumonia, and pleurisy, ...	73	68	60	73
Cases reported—				
Small-pox, ...	...	...	...	...
Cerebro-spinal meningitis, .	...	2	...	...
Diphtheria and membranous croup, ...	31	19	23	30
Erysipelas, ...	29	36	19	32
Scarlet fever, ...	63	67	51	68
Typhus fever, ...	3	...	...	...
Enteric fever, ...	9	10	7	4
Phthisis, ...	59	43	61	37
Puerperal fever, . . .	3	4	5	1
Measles,*	172	401	491	376

* Measles not notifiable.

Sanitary Chambers,
Glasgow, 29*th April*, 1913.

THE

GLASGOW MEDICAL JOURNAL.

No. VI. June, 1913.

ORIGINAL ARTICLES.

ABDOMINAL INCISIONS AND INTESTINAL ANASTOMOSIS IN THE TREATMENT OF CARCINOMA OF THE COLON.[1]

By A. ERNEST MAYLARD, M.B., B.S., F.R.F.P.S.G.,
Surgeon, Victoria Infirmary, Glasgow.

My object in introducing to you this evening some cases of carcinoma of the colon, treated by operation, is not so much to illustrate the success which may attend the removal of malignant disease of the large intestine as to emphasise certain advantages attached to particular details in the various methods of operating.

Our first considerations in operative treatment are based upon the nature of the case. Is the patient suffering from symptoms of acute or subacute obstruction, or are the indications those of chronic or intermittent obstruction?

In the first instance, our duty is solely to relieve the obstruction. In the second, we may consider the advisability of radical operation, that is, removal of the disease and the re-establishment of the continuity of the canal.

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[1] Read at a meeting of the Medico-Chirurgical Society of Glasgow held on 31st January, 1912.

In the former case we have to decide where we shall tap the canal, and this can only be determined by knowing the seat of obstruction. Unfortunately this latter knowledge is often most difficult, and often impossible to acquire. If we have reason to believe that the obstruction is distal to the mid ascending colon, the best place for our colostomy is, as suggested and always practised by Paul, in the right loin. If we are in doubt, and only suspicious of its being proximal to that region, it is wiser to explore through a mid sub-umbilical abdominal incision, and determine definitely the seat of the disease before resorting to the worst possible situation for tapping the bowel—the right iliac region. Let me give a few reasons for this advice. If you tap the cæcum, which is almost certainly done when an opening is made in the right iliac region, you obtain a continuous discharge of extremely irritating fæcal material which frets the parts around, and very soon excoriates the skin. You then not only produce a very distressing condition for the patient, but you have a large septic area in close proximity to any other abdominal incision you may subsequently be called upon to make for further treatment of the disease, either by excision or by short-circuiting. If, on the other hand, you tap the ascending colon in the right loin, the fæcal discharge is no longer possessed of irritating properties, for its normal physiological retention in the cæcum neutralises these influences; and the fæcal fistula is so placed that it, in most instances, in no way interferes with any subsequent incisions on the anterior abdominal surface for further radical treatment. Let me now deal with that condition where the symptoms are sufficiently distinct to indicate that the patient suffers from incomplete obstruction; in other words, where the indications are not such as to demand immediate relief of the obstruction. We may similarly be confronted with the difficulty of not knowing at what part of the colon the obstruction exists. In such a case our first duty will be to explore through a sub-umbilical median incision of sufficient length to admit of the whole extent of the colon being examined. Having, by this means, ascertained the locality of the disease, we may then approach it in such a way as will afford us the best possible means of freely dealing with it. To effect this brings me to the first of the two reasons I have for introducing these cases to you this evening.

You will have observed in looking at the cases that all the incisions are either transverse or oblique, that is to say, they are transverse in the mid and upper abdomen, oblique in the lower. The vertical incisions were solely for diagnostic purposes. The reason for these particular incisions I will now explain.

First of all, they effect the freest possible exposure of the involved region, and, therefore, admit of the freest possible removal of the disease. In the second place, these incisions result in cicatrices that are the least likely of all to weaken and cause herniæ.

The question of free exposure I need not discuss—that is practically self-evident; but the subsequent condition of the resulting cicatrix may not, on the face of it, appear quite so clear. I must ask you, however, to accept the truth of my statement on the strength of the proof which the cases shown make manifest. To fully explain the *rationale* of these incisions, in the way that I have done elsewhere,[1] would take too long, forming, as it does, a subject for discussion in itself;

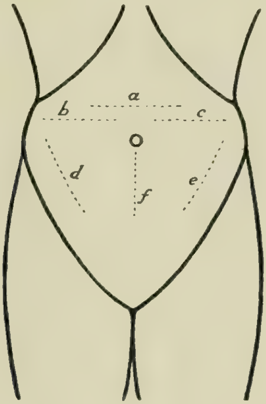

FIG. 1.

ABDOMINAL INCISIONS.

a. For transverse colon.
b. For hepatic flexure and upper ascending colon.
c. For splenic flexure and upper descending colon.
d. For cæcum and lower ascending colon.
e. For lower descending colon, iliac colon, and pelvic colon.
f. Exploratory.
(*b.* and *c.* also for kidney tumours.)

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[1] *British Medical Journal*, 1907, vol. ii, p. 895, and the author's *Practice and Problem in Abdominal Surgery*, p. 29.

but I think some idea will be gleaned from the description which accompanies the following instructions regarding the respective incisions made for disease in the different parts of the colon (see also Fig. 1, p. 403). In the case of tumour or stricture of the transverse colon, the incision is carried across the abdomen from one to two inches above the umbilicus. No hesitation is had to completely divide the recti muscles, if free exposure of the part renders it necessary to do so. In stitching up the parietal wound all that is needful is to accurately coapt and secure the rectus sheath in front and behind the muscles. If this is done a perfectly secure and non-giving cicatrix results.

In the case of tumours and strictures of the hepatic and splenic flexures, or of the ascending or descending colon, transverse incisions are carried outwards from points situated respectively above and to the right or left of the umbilicus. The great advantage of these incisions lies in the anatomical fact that there is no cross division of the muscle or aponeurotic fibres. Hence, when the wounds are sutured in serial order, a perfect and non-giving cicatrix results.

There are no incisions of the abdominal parietes more likely to be followed by post-operative herniæ than those which are carried across the fibres of muscles that are not protected by aponeurotic sheaths. Thus, vertical incisions on either side of the abdomen are almost invariably followed by weak cicatrices, and should be avoided whenever possible.

Let me incidentally remark here that these particular transverse incisions afford the best possible approach to the kidneys when enlarged from any cause, and removal is requisite.

In the case of tumours or strictures of the cæcum or of the lower part of the ascending colon, the best incision is an oblique one in the right iliac region. Similarly, for involvements of the lower descending colon, the iliac colon, and the pelvic colon, the best incision is an oblique one in the left iliac region. These incisions are based on the principles so well known in the case of the so-called "gridiron" incision where the chief end aimed at is to separate and not divide muscle or aponeurotic fibres. To obtain, however, the requisite amount of room so essential for a free removal of the disease, it is frequently necessary to enlarge the incision either upwards or downwards. This is effected by cutting through the internal oblique and transversalis muscles, leaving, however, intact the aponeurotic fibres of the external oblique, which thus serves to guard the cicatrix against hernial protrusion.

I will now pass on to the second reason I have for bringing these cases before you—that is, the best way to effect a re-establishment of the continuity of the canal, either after removal of the involved bowel, or where the disease is too advanced to render extirpation possible.

It must ever be remembered that the safest union in all anastomotic operations is dependent upon two very essential conditions.

First, the healthier the bowel edges along the line of union the more rapid and secure the healing; or, to express it in another way, the less likely will there be infection and leakage along the line of suture. It is largely for this reason that anastomotic work is so fatal in its results when attempted under conditions of acute obstruction. Under such circumstances, not only is the patient frequently suffering from more or less general fæcal toxæmia, but the churned-up content of the intestine is virulently poisonous, and, therefore, extremely deleterious in its influences upon the raw edges of the wound. Thus, then, it behoves us to strive our utmost to get the intestinal canal into as healthy a condition as possible before we attempt any radical measures. Not the least item of importance in our tapping a distendent and obstructed intestine is the result which accrues from the rapid clearing and cleansing of the canal. The right time for the radical operation is gauged by the condition of the tongue; this is always a good reflex of the state of the intestinal mucous membranes. And, further, a clean tongue means generally a restored appetite; and I need not point out that these are conditions that ensure good healing of wounds in any part of the body.

The second essential condition for safest union in anastomotic operations is the perfect coaptation of uninterrupted serous surfaces. The sealing which takes place when peritoneal surfaces are closely and securely coapted is so rapid and firm that a few hours is sufficient to render any leakage from the intestinal canal practically impossible. Where, however, there is a lack of peritoneal covering, such as exists along the line of mesenteric attachment, there is no such cementing security; indeed, this particular line constitutes a constant source of danger in all our intestinal work. It not only fails in producing rapid and safe occlusion of the canal, but by reason of the division and necessary exposure of the lacteals and lymphatics a source of infection is admitted, which of itself may very soon lead to leakage. I think it will be conceded by most surgeons of experience in this particular department of abdominal work, that most failures may be traced to mischief taking place along the mesenteric line of attachment. In this connection, I may incidentally remark that the part played by the meso-colon is of far greater importance than that effected by the mesentery. Indeed, the higher we ascend the intestinal canal the less deleterious are the influences which the mesentery is capable of producing; and, *vice versa*, the lower we go the more dangerous the result. This fact arises for two reasons. One, that the small intestine is more completely surrounded by peritoneum, and, consequently, the line of attachment is narrower: and the other, that the powers of infection possessed by the intestinal contents is proportionately less the higher we ascend the canal. It is partly, if not principally, for these two reasons that end-to-end union of two segments of the jejunum is comparatively safe, while a similar method of anastomosis in the colon is risky, and often dangerous.

In dealing, therefore, with all anastomotic operations upon the colon, we have to take into most serious consideration its mesentery, and, unless we do so, we must not be surprised —for the reasons above given—that success sometimes fails to follow our efforts.

Bearing in mind, then, this essential detail, I will point out some of the various methods that may be adopted in order to circumvent any of the deleterious effects which a divided meso-colon is capable of producing.

We will take, first of all, the case of excision of the tumour or stricture, and the re-establishment of the continuity of the canal. There is no one method that can be universally adopted. We must be guided by the conditions we encounter, and these conditions will be very materially affected by the amount of free gut we find we possess, both proximally and distally, after removal of the involved segment. Should this be limited, we must adopt the course taken in two of the cases I have brought forward this evening. In them I could do no more than close both ends of the canal, and then, by fairly forcible traction, obtain just sufficient to effect an anastomosis by lateral approximation (see Fig. 2). By looking at the illustration you will understand how such a mode of attachment allowed of very perfect and uninterrupted coaptation of two clean peritoneal surfaces. The method of suturing was that ordinarily effected in the operation of gastro-jejunostomy—that is to say, there was an inner and outer series of partially interrupted Lembert sutures. Supposing I had had a little more freedom in dealing with the two portions of the bowel, I might have effected an anastomosis by the method shown in Fig. 3—that is to say, instead of the two occluded orifices pointing in the same direction, they might have assumed opposite directions. I do not know whether this method offers any particular advantages over the previous one. I can only say that the former has answered perfectly well in most of the cases in which I have employed it.

Supposing that we have more bowel at our disposal than just assumed, and can select any method we please, then I am in favour of a method to which I have given the name of "intestinal anastomosis by invagination." It is an extension of that method known as "lateral implantation" or "end-to-side" union. The latter, represented by Fig. 4, partially fulfils one of the requisite essentials of coaptation, for we have a perfectly clean and uninterrupted peritoneal surface in the distal segment, and the only weak point is the mesenteric or meso-colic margin of the proximal segment —that part which is to be implanted into the side of the distal. And accurate as may be our suturing, this point ever

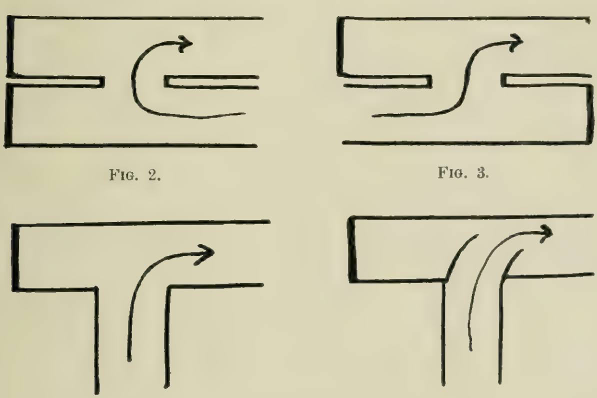

Fig. 2. Fig. 3.

Fig. 4. Fig. 5.

Methods of Intestinal Anastomosis.

Figs. 2 and 3—By lateral approximation.
Fig. 4—By lateral implantation, or end-to-side union.
Fig. 5—By invagination.

remains a source of weakness. It is liable to infection, and, in distension of the gut, is liable to give, and admit of, leakage.

It was to overcome these two possible sources of risk that I ventured upon a method which seemed likely to answer the desired purpose. You will readily grasp the procedure by looking at Fig. 5 (p. 407). I have fully described the details of the operation elsewhere,[1] but I think the illustration sufficiently makes clear the principle. It really consists in nothing more than pulling a short length of the proximal segment through a longitudinal opening in the wall of the distal. You will see that any distension of the bowel cannot cause the same tendency to leakage as exists in the case of anastomosis by "lateral implantation;" nor is there quite the same risk of infection at the mesenteric margin, for the mesentery itself is slightly invaginated, and, therefore, no divided lacteals or lymphatics exist along the line of union. There are other advantages of this method which I will not trouble you with now, for, as I have already intimated, the operation is fully described elsewhere. In the oldest of the patients shown to you this evening—a woman, aged 70 years —this method was adopted.

Before concluding, there are two other details connected with all anastomotic operations upon the colon which are of some importance. I have already spoken of the part played by the divided meso-colon in the production of infection, and one of the details has reference to the treatment of this region. There can be no doubt that where there has been a prolonged period of symptoms of obstruction, possibly only of the intermittent type, and, still more, when there is ulceration connected with the growth or stricture, the lymphatics leading through the meso-colon from the diseased area are filled with poisonous and infective products. Hence, when we sever the membrane in process of excising the diseased bowel, we liberate, or allow in future to be liberated, these deleterious agents; and if we have not provided a means for their neutralisation or escape, we shall certainly, sooner or later, have a collection of purulent material which will make its way either externally or into the bowel—more frequently, I think, externally. Then, as not unfrequently happens, this is followed by a fæcal fistula, which, although it usually subsequently heals, often takes some time to do so. I feel convinced that this is the explanation, more than that it is due to any leakage along the line of bowel union, of the rise of temperature, local tenderness, and subsequent discharge of fœtid material, which sometimes occurs when we have attempted to obtain a primary union of our parietal wound. Where, then, we have reason to fear such a sequel to our anastomotic operation, we are wiser to gently plug the region with iodoform gauze and drain with a rubber tube. These may be removed in a few days, when protective granulations may be considered to have sprung up and guarded the surrounding tissue from any possible infection.

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[1] *Annals of Surgery*, 1909, vol. xlix, and the author's *Practice and Problem in Abdominal Surgery*, p. 256.

The other detail to which I attach considerable importance is forcible dilatation of the anus. The reason for this is that retro-peristalsis in the large intestine is probably a normal physiological process, and may possibly be prevented by the anal outlet offering no impediment to the exit of the bowel contents. Certain it is, that whatever our method of anastomosis we do not want any backward pressure. Distension, though it be only by gas, might lead to leakage. So I prefer to adopt the method—which I long ago saw practised in Vienna—after stretching the sphincter, of inserting a large-calibred rubber tube encircled with iodoform gauze soaked in glycerine. This leaves a perfectly patent channel through which gas can freely escape, as well as any discharges which may result from the irritative effects of the bowel wound.

THE ADULTERATION OF FOOD STUFFS AND ITS INFLUENCE ON DIGESTION.[1]

BY WILLIAM WATSON, M.D.

WE belong to a country where the land cannot support the population. Much of our food stuffs has of necessity to be brought from distant lands, and we likewise import many edible articles of luxury. In addition, we have many huge cities distant from the home centres of production, and we are beset with the difficulty of bringing fresh and wholesome food to the homes of the people. Considering the perishable nature of many of our most valuable articles of diet, their consumption in a safe state not only means much to the general health of the nation and its stamina, but it is of the utmost importance in considering the cause and treatment of a large proportion of the commonest of the gastro-intestinal troubles we are called upon to treat to-day.

Granting that food should be fresh, free from mustiness, moulds, or putrefaction, free also from poisonous admixtures and minerals not required in the economy of the body, and free also from compounds that possess deleterious properties, though not exactly poisons, it is our duty as medical men to draw attention to the rapid rise in the use of such substances in food sold for human consumption, and to investigate how far this practice disturbs the beautifully balanced arrangements for the various ferments to act upon and digest our food.

Many methods for maintaining in a fresh state articles of diet have been used from time immemorial, and these, as far as we know, are without any evil effects. Degrees of temperature, heat and cold, exclusion of air, drying, smoking, are means well known to all, and the use of salt, oil, alcohol, vinegar, has for long been common. But with the knowledge of the microbe came the knowledge of its destructive work and of the agents to overcome it. Since that time the use of antiseptics in food has spread rapidly, and so common had it become that in 1899 the Local Government Board appointed a committee to "inquire, *inter alia*, into the use of preservatives and colouring matters in the preservation and colouring of food." In 1901 it issued its report and gave a list of the articles examined in the Government laboratory. In all, 4,251 articles were examined and 39 per cent of these were found to contain preservatives. Sixty-six of these samples came from Glasgow and 45·4 per cent contained preservatives.

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[1] Read at a meeting of the Medico-Chirurgical Society of Glasgow held on 31st January, 1913.

The boron compounds, boracic acid and borax, were the most commonly used. Of the 1,659 which contained preservatives, 1,247 contained boron compounds, 320 salicylic acid, 20 formalin, and 143 contained sulphites—

Milk was found to contain up to				210	grs. per	gallon.
Cream	,,	,,	,,	57	,, ,,	pint.
Butter	,,	,,	,,	62	,, ,,	lb.
Sausages	,,	,,	,,	66	,, ,,	,,
Bacon	,,	,,	,,	46	,, ,,	,,
Brawn, potted meats, &c.,			,,	66	,, ,,	,,
Margarine,			,,	73	,, ,,	,,

In temperance drinks the results were likewise astonishing—

Lime juice cordial had up to		108	grs. per gallon.
Lemon squash,	,,	50	,, ,, ,,
Ginger wine,	,,	113	,, ,, ,,
Raspberry wine,	,,	133	,, ,, ,,
Orange wine,	,,	106	,, ,, ,,
Black currant wine	,,	210	,, ,, ,,

Even sherry is not free, as Mr. Tatlock, City Analyst, lately found a sample with 40 grs. to the gallon.

1. Boracic acid and borax were likewise found in meat extracts, meat juices, potted fish, &c.

2. Salicylic acid is commonly employed in hams, sausages, potted meat, sauces, milk, butter, cream, meat juices, syrups, lager beer, wines, preserved fruits, and jam, in quantities which vary so much that it can, for the most part, be only ignorance which dictates the amount used.

3. Formaldehyde is commonly used in milk and cream, and is frequently sprayed over meat, fish, and fruit, and used in temperance beverages to prevent secondary fermentation.

4. Benzoic acid is commonly employed in the same way as salicylic acid.

5. Amongst the most extensively used are the sulphites of sodium (acid) and lime and the bisulphite of lime. The latter is commonly known as "Madam Rachael," and is extensively used by butchers. It gives a strikingly red colour to meat by fixing the oxyhæmoglobin in the blood, is a deodorant,

and can make minced meat and sausages appear perfectly fresh and sweet, while the bacterial count is greatly in excess of specimens which showed an advanced state of decomposition. It is also used in beers and wines, and in fish, game, and poultry.

6. The fluoric compounds are creeping into more general use for preserving butter, cream, beer, &c.

Time will not allow of me to specify more, but, amongst others I might mention as being in common use, are saltpetre, formic acid, peroxide of hydrogen, crude pyroligneous acid, sodium carbonate of lime, sulphuric acid, asaprol, β-naphtholsulphonic acid, red oxide of iron.

Seldom indeed does the quantity in one particular sample prove dangerous to life. But the extensive and ever-growing use of these substances becomes a menace to health, and even to life itself. The medicinal dose may exceed the quantity taken in a sample; but when each article of food may be treated with one or more preservatives, and this goes on day by day unconsciously, it is for us to inquire how far this state of matters may affect the health of people by the continued use of such articles paralysing the digestive ferments and the absorbing power of the mucous membranes.

It is unnecessary for me to detail the digestive functions and the action of the various ferments. Suffice it to say that, by means of a nerve stimulus, the first of these begins to flow, and then by means of chemical stimuli started in this way, and acting and reacting on each other, the various ferments are called into play or put out of action as occasion demands.

The organic compounds known as food have each their specific ferment or ferments, and in pure food the inorganic bodies are few and in extremely small quantity, Na and Cl in the form of common salt and Ca being in the greatest quantity, Fe, P and S being only slightly represented. Again, in pure natural food the physical condition is not altered by chemical substances, as meat is by the sulphites or formalin, or the skin of peas by copper sulphate. The germ of the wheat, which is such a help to digestion, has not been removed, nor has its colour been altered by the fumes of a poison like nitrous dioxide, or the action of an astringent like alum.

It will be for us to consider how far these substances, extraneous to pure food, affect digestion and health.

Experiments by Chittenden, Rideal, and Foulerton show that the boron compounds inhibit the action of ptyalin. In this way the quantity of the HCl is reduced and the action of rennin is interfered with, preventing the curdling of milk and preventing the digestion of the proteid by the pepsin. Borax tends to neutralise HCl, and even a 1 per cent solution entirely arrests the curdling of milk for twenty-four hours at least. It likewise inhibits amylopsin, while boracic acid inhibits trypsin. As regards local action, even a 2 per cent solution of borax will cause excess of secretion and disintegration of the mucous membrane of a dog's stomach. Borax interferes with the absorption of proteids. By this and by its inhibitory action on the stomach and on trypsin it increases putrefaction in the bowel—a fact which will be referred to later on.

I do not intend to deal with experiments relating to the feeding of animals with boricised food, as these are very contradictory, the tests not being comparable, as different animals of different ages were used, and the times allowed in each experiment varied so much that little or no reliance could be placed on the results. Only one inference could reasonably be drawn, and that was that borax and boracic acid were fatal to animals whose age called for a purely milk diet. Clinically, much evidence goes to prove that these substances are capable of causing in the human being distinct gastric disturbances in doses of 15 to 30 grains given for a period of seven to fourteen days. In a considerable number of cases in such quantities it caused headache, sickness, and vomiting, flushing of the skin, and malaise; and when continued it caused eruptions of the palms of the hands, extending to the body, head, and face.

Dr. Thomas reports an epidemic of summer diarrhœa in children. Boracic acid was used medicinally. Instead of recovery they became worse, and many died. It was found that the milk they were getting already contained 40 to 120 grains per gallon. Proof that it is a gastro-intestinal irritant is established, I think, and likewise its continued use is very liable to produce albuminuria; and when there is any kidney mischief its cumulative action must not be forgotten, it having been found in the urine fifty-three days after it ceased to be used.

Formalin at 40 per cent solution of formaldehyde is in common commercial use. It inhibits the action both of ptyalin and pepsin. A solution of 1 pint of formalin to 10,000 of water prevents the digestion of fibrin for six hours, and leaves an insoluble mass at the end of that time. Without this addition the fibrin is digested in two and a half hours.

In milk it causes the casein to fall in thick voluminous flocculi, which are insoluble even in a mixture of sulphuric and acetic acids, while a mixture of pepsin and trypsin has no effect on them.

In a solution of 1 part formalin to 1,000 the action of rennin is destroyed, and that of amylopsin in 1 to 50,000, while it inhibits the action of trypsin. Physically it hardens proteids, and, as has been shown, by inhibiting or destroying their digestive ferments one can imagine what effect it will have on, say, an infant's or an invalid's diet. Clinically, it has a hardening and drying effect on the skin, and is often responsible for skin eruptions. This was exemplified by an inquiry into an epidemic of skin disease, papular, bullous, and pustular, which broke out in the Central London Sick Asylum, Hendon, and which was undoubtedly traced to milk which had been preserved in this way. Several similar outbreaks have been reported in the medical journals.

The sulphites are in very general use, and their active principle seems to be sulphur dioxide. They are apt to cause discomfort, headaches, and bad eructations of SO_2 and H_2S.

When applied to the stomach wall of animals in a 5 per cent solution they cause death, there being marked corrosion of the stomach walls and even of the neighbouring organs, while dilute solutions set up inflammation. As early as 1896 Kionka showed that small doses given to dogs caused serious lesions in various parts of the body, and Ebstein and Schultz showed that their use set up nephritis. Its danger is all the greater from its being used in substances which are liable to be partaken of in great quantities at one time, such as beer, cider, &c.

Salicylic acid being a drug in common use its therapeutic action is well known to you, as are also the idiosyncrasies connected with its use. Lauder Brunton says that it inhibits ptyalin in a solution of 1 in 250, of pepsin in a similar solution, and of pancreatin in a solution of 1 in 9,000. If not well diluted, it causes pain and vomiting, and in larger and prolonged doses it produces skin eruptions, albuminuria and hæmaturia, deafness, headache, and sometimes delirium and heart failure.

Fortunately, however, the substances loaded with it, such as cordials, juices, &c., are not partaken of in large quantities; while the quickly perishable articles in which it is used reveal its disagreeable taste if it is used in large quantities.

The fluorides have been more used on the continent up till now. They have, however, been detected in butter up to 4 grains to the lb., and Hichner states that a 0·04 per cent solution greatly retards salivary action and peptic digestion.

Alum is commonly used in bread to give it a white colour. Its action as a gastric intestinal irritant is recognised, while it also predisposes to constipation.

The use of sulphate of copper has been recently before the law courts, and its use has been legalised in certain proportions. While the prosecution failed to prove its poisonous nature, as far as immediate danger to life was concerned, we have to consider how far its constant use over a period of years may undermine and ruin digestion. It is an astringent, and the pharmaceutic dose is ½ to 2 grains, and doses of 5 to 10 grains, if not vomited, will cause inflammation of the gastric mucous membrane.

Lauder Brunton states 1 pint to 7,500 arrests the action of ptyalin, 1 in 110 that of pepsin, and that of pancreatin in 1 in 6,600. But its action on the lower forms of vegetable life is marvellous, 1 pint in 50,000,000 being sufficient to kill all the algæ in a sample of water, while all the anabœna in a reservoir were killed in 24 hours by a solution equal to 1 in 8,000,000.

Dr. Moore found also that the bacillus of cholera and that of typhoid were killed in a solution equal to 1 in 100,000 in four to five hours, and that on the scale of a water supply. Hence it is difficult to conceive that the doses used commercially, varying in many cases from 3 to 7½ grains per pound of vegetable matter, can have no damaging effect on the mucous cells or villi lining the gastro-intestinal tract.

Formic acid is not in common use. It is a powerful stimulant to muscular action, but its continued use leads to gastric irritation. Commercially, it is used in the preservation of liquids liable to fermentation.

Hydrogen peroxide is gaining ground rapidly as a preservative, and, so far as investigations go, it would seem to be one of the least harmful used. In Copenhagen its use has been patented for preserving milk. This is known as Buddinized milk, from the name of the patentee.

Crude pyroligneous acid is used to imitate smoking. It contains creosote and tar. Fish, tongues, meat, &c., are immersed in this for some hours, when they have all the appearance of having been smoked. As can well be understood, the use of articles preserved in this way is apt to cause colicky pains and diarrhœa, and sometimes dyspnœa and weakness of the heart's action.

Now, if there are things common amongst this long list, it is that all are germicides, all are gastro-intestinal irritants, and all have a more or less inhibitory action on the digestive ferments.

Reason as we may, we cannot rid our minds of the conviction that these substances are not harmless.

When we consider that they are used in such a wide variety of food, that at one meal a person may be taking two or more things which contain a fairly large quantity of the same antiseptic, that at each meal one or other of the same class will be partaken of, and that this goes on from day to day and week to week, the idea is borne in upon us that this may explain to a greater or lesser degree the rapid rise in those gastro-intestinal troubles which are so puzzling and difficult to cure, and which, to an ever-advancing extent, are handed over to the surgeon to deal with. With evidence like this before us, and never forgetting idiosyncrasy as an important factor to be reckoned with, we may safely conclude that much of the gastric catarrh we see owes its origin to preservatised food. Atony and dilatation of the stomach from the suppression of the hydrochloric acid, pepsin, and rennin can, I think, in many cases be reasonably attributed to this cause; while ulceration—except that of stasis—especially of the duodenum, may equally be laid to the charge of these agents, and in particular to such a substance as bisulphite of lime. But even in the stomach such irritants may cause a slight erosin of the mucous surface which will be acted upon by the digestive juices of the stomach and cause the regular punched-out ulcer.

It is customary to attribute all functional disturbances which precede physical changes in the gastro-intestinal tract to a nerve origin, but I would suggest that many of them are of a distinctly chemical origin.

Dealing with the intestines, we may also attribute to a like source many of the catarrhs, chronic catarrhal collites, prolapses of the colon, &c., which we meet with. I should be inclined to claim these agents as the chief cause of intestinal sand; and when we consider the extra quantity of mucus secreted, the extra quantity of lime and other minerals present, this seems not unreasonable. Likewise, it is not to be wondered at that people who are specially susceptible to these agents should have the whole digestive functions thrown out of gear and each part of the tract reduced to a mere receptacle instead of an active organ endowed with movement and distinct chemical functions to perform.

Lastly, there is the question of appendicitis. It is to be remembered that these agents are antiseptics—many of them powerful ones. Most of them act on the bacillus lactis and bacillus coli, and these, as you know, check the action of other harmful ones. Again, most of them inhibit the ferments that act on the proteids. These are passed into the lower bowel, neither properly disintegrated nor digested. Here they putrefy, and thus an antiseptic like boracic acid actually increases putrefaction in the bowel. Again, such an agent is used because it is free from taste. Substances such as ham are not so thoroughly steeped in brine as they used to be. Boracic acid which, acting all right when dusted on the outside, in the middle of the roll has not the same power, and consequently we have small putrefying pieces which are swallowed undetected by the taste, but are sufficient to act as ptomaine irritants and so weaken the resisting power of the mucous membrane. As stated before, by the action of bisulphite of lime we are deceived with what appears to be wholesome flesh, but which contains swarms of those germs which cause putrefaction. In this lower bowel, then, we have bacteria unchecked by the natural bacteria, proteids undigested and putrefying, carbohydrates fermenting, and mucus in excess. It is for you to consider what part this condition plays in causing appendicitis.

I have to thank you for the opportunity you have given me of bringing this paper before you. The facts I have chiefly taken from the report issued by the Local Government Board in 1901 and from the work of Thresh and Porter. To Mr. Tatlock I am indebted for much of the work relating to Glasgow and his kindly help in providing evidence. I have no doubt but that in the near future this subject will be widely studied, and that the chemist, the physiologist, and the physician will relieve the surgeon of much of the work that has fallen so heavily on him.

THE GENERAL PRACTITIONER'S POSITION IN RELATION TO PULMONARY TUBERCULOSIS.[1]

By ANDREW GIBSON, M.B., F.R.C.S.Edin.

Mr. Chairman and Gentlemen,—I feel that some apology is due from me for being a speaker instead of a listener to-night, and I can fairly plead that only the inflexible will of your Secretary and an unfortunately hypersensitive sense of duty to our Association could have placed me in my present position. For my subject I make no apology at all, however unsatisfactorily I may deal with it; for in the whole range of present-day medicine there is no subject which equals it in importance, alike to the doctor and to the community. I would go further, and say that no subject equals it in what might be called scientific romance.

However, we may leave the romantic aside and devote ourselves to the practical. In the great campaign against tuberculosis, with its huge army of district visitors, inspectors, tuberculosis officers, dispensaries, and sanatoria, the position of the general practitioner is liable to be underestimated. Two self-contradictory fallacies are apt to be developed in the public mind—not, perhaps, always at the same time and place. Firstly, the appointment of special officers generates the idea that they, and they alone, are competent to detect and treat pulmonary tubercle; secondly, the dissemination of popular literature and the free employment of non-medical aid foster the idea in some quarters that anyone can diagnose a case of phthisis.

Either of these cases might be arguable, but obviously both cannot be true. The truth lying between the two is that the movement depends largely for its success upon the general practitioner. I say this in no narrow professional spirit, but from the broadest possible view of the public health. For the present I shall not dwell further upon this point, but simply state the obvious fact that all cases depend for success upon early treatment, early treatment only results from early diagnosis, and early diagnosis is not usually possible by anyone else than the general practitioner. This will be fully illustrated later on. Meantime, as personal experiences (whether of success or failure) are the only material worth offering, I shall take a leaf out of Dr. Rennie's book and for a few minutes give a retrospect of my own experiences. Before starting to-day's march it is useful to look back on yesterday's.

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[1] Read to the Monklands Medical Society on 17th December, 1912, to initiate a discussion among general practitioners.

RETROSPECT.

1. *Student.*—I can still recall my feelings when I encountered my first case of phthisis in that dispensary work which gives us all our first taste of the joys and sorrows of medical practice. Phthisis at that time occupied but little space in the class of medicine. It almost seemed as if, being a reproach to medicine, it should be ignored as much as possible. On coming face to face with the disease I hastened to look up my learned professor's views, and found from my notes that the prognosis was grave, very grave—indeed, almost the grave. As to treatment, some slight cough sedative—Begbie's mixture of acids, as given in Edinburgh, and cod liver oil were suggested—but the patient should be ordered to spend winter and spring at the Riviera or the Engadine. When I thought of my patient in the slums the treatment did not seem to fit perfectly. This unfortunate collapse of scientific medicine, when brought to the test of actual use, was like a cold douche to my youthful enthusiasm; but I revived again next year when I passed on to another lecturer on medicine. On reaching this subject he declared that, if taken early, this was one of the most curable of diseases. Not content with stating it, he demonstrated the process of cure, and showed the results. (Scientifically I know I ought to say arrest, not cure; but arrest, I believe, will soon be replaced by cure when the public is educated up to it.) The reasoning and the results, when set in contrast to my position in the previous year, impressed me so deeply that I have never forgotten them. The fact that he was then a voice crying in the wilderness only served to deepen the impression.

2. *Assistant.*—This experience as a student sent me out with a strong bias to the open-air treatment, and my convert's zeal led me up against some hard cases and tough propositions. Fools rush in where old physicians steer clear. Earliness of diagnosis was essential for success, and I was often taken to task by my chief for diagnosing pulmonary tubercle too previously. Doubtless that was sometimes true, yet I did

not so much object to that criticism; but to find my beloved fresh-air system—the best remedy that science could give to the consumptive—brushed aside as a fad, or worse, as a device for killing off all my weak-chested patients, and to have it replaced by filthy mixtures of opium, ipecac., and squill, all that grieved more than any personal criticism.

My chief was a thoroughly capable physician, and a teacher of the extra-mural school; but he held to the view he had been taught, and his prognosis for phthisis was so bad that he shrank from diagnosing it, until it stared him in the face and could not be ignored. My opinion had no weight against his, and so it came about that I could test my views by following up cases which were under his treatment. I honestly think that a fresh-air treatment would have left me very doubtful whether those cases were really phthisical or not. In many of these I could only suspect tubercle, and, failing proof, could not force my treatment; but in six months or so the chief would say, casually, "I saw Brown to-day; poor chap, I'm afraid he's going into phthisis." By "going into phthisis" he meant a gross lesion of the lungs, breaking down of tissue, discharge of bacilli in sputum, and the whole formula of mixed infection following on.

3. *Practitioner.*—Warned by such experiences as assistant, when I emerged as a practitioner I felt my time had come to try a whole-hogging line of treatment. This was now much easier, because the open-air treatment had become somewhat fashionable, although in some quarters it received more lip- than heart-service. Although the results left a great deal to be desired, yet they were an enormous advance on the old results; and the hunt for early cases became quite exciting—in fact, the most sporting event in practice. "Coming events cast their shadows before." In my ten years' experience I have often diagnosed tubercle where no phthisis followed; I have even done so where the patient died latterly of a mediastinal tumour, but in such cases my mind is easy and my conscience clear. The diagnosis of tubercle (early and presumptive) led to the adoption of a hygienic physiological life. This in turn arrested the tubercle, or if no tubercle really existed, it often corrected the error of health, and the patient benefited in either case. I cannot recall at present any case in which I was astonished to find tubercle develop where I had excluded it from my diagnosis. Perhaps you will tell me at the close that that is easily explained. If you spread your net wide enough

you can catch all the fish. And quite likely some of my cases have come under your hands.

However, looking back over some notes of these cases, and still harping on the idea of early treatment, I thought it might be of some use if I classified them simply according to the way in which they came to me. If I knew how and in what guise pulmonary tubercle met me, I might more readily forestall it. If we know the roads by which our consumptives come to us, we might see them afar off and catch them earlier. Classifying them then according to the way in which I came across them, I find them grouped roughly into eight groups which I will briefly sketch.

I. SO-CALLED HEREDITARY GROUP.

This includes those cases that are held to support the hereditary theory of consumption, and we all know the extreme type. One or other parent has died of phthisis and the children grow up delicate. As they reach manhood and womanhood they wither away in a decline and no treatment saves them. Friends who remembered what the parent looked like are impressed by the repetition of the same symptoms and the same family features. The hereditary theory seems proved. With us it is different, and rightly so. Koch's discovery of the bacillus in 1882 struck the death-knell of the hereditary theory for us, and we reckon it is now decently interred. But its blighting influence is still over us in its successor. I mean the theory that although the actual disease is not transmitted, yet a weakness of the tissues to the tubercle bacillus is hereditarily transmitted. This may be true. A general practitioner is least qualified to presume to decide. Yet, taking the problem of these families from the general practitioner's point of view, I hold we are bound to resist that blighting theory. It hinders us in two ways—firstly, it implies a reproach on the family health, which prevents patients from facing the fact of phthisis while it is yet early and curable. We all know the answer when we suggest pulmonary tubercle, "Why, there never was such a thing in our family." It stifles our efforts in another way; for the friends of these unfortunate patients, believing the disease hereditary, are quite reconciled to seeing them glide into their graves. They believe there is no hope. Such being the effect of this theory, let us examine what foundation it has on fact, and let us try to interpret those facts in the light of more modern research. Koch proved to us that tuberculosis was an infection. Recent researches show that the infection is so universal that few escape its touch in the first fifteen years of life. The infective process is slow and the body possesses great power of resistance against it. Hence most of us are unaware of having been infected. Infection directly from an active case is the most dangerous form.

Let us apply this to our type of case. Here, then, we have a child born of a consumptive mother who dies a few years later. This child during its most helpless age is nursed and kept in the closest contact with a case of active progressive phthisis, being kissed and fondled by its mother. We need not discuss the question of whether it becomes infected—we can safely assume that it does, and that the infection is so virulent that only a powerful resistance can withstand it. Yet this child does not die. It shows a lowered vitality due to the struggle, but it holds the infection in check until manhood, when the full strain of life tells on its vital powers. Then it succumbs, but that is only the last act of a prolonged drama. It is no new thing. The blood's power of resistance has been sapped, and the end comes. Nay more, this child, recognised as delicate, has been coddled and kept from cold all these years. That means that the bacillus has had all the help possible, and the patient has been deprived of nature's own aid to his tissues.

What right have we to say that the patient's tissues are weak to the bacillus? He has had a strong and long-continued infection with a powerful bacillus in a very active state. He received that while he was at a tender and helpless age. He has had no help to resist, while the bacillus has been aided in every way, and still he has held out against it for fifteen years. How many of us would back ourselves to go through the same? Instead of calling them weak, I think we might suggest that they are extremely strong. However, leaving theory aside, the practical point is that by substituting infection for heredity (either disease or tissues) we get a working basis for early action. There is no place for folded hands and talk of the Lord's will. The tuberculous parent becomes a danger signal calling for open-air treatment for all the children, periodical examination of the family, and prevention of infection, if not absolutely, then relatively.

We cannot guarantee that a widespread infection like tubercle will not appear, but we can secure that no child shall be continuously inhaling and swallowing active bacilli from its parent.

When we do that we will have fewer of these tragedies of families withering away before our eyes.

II. ORDINARY APICAL PHTHISIS.

This type comes on us like a bolt from the blue in many cases. At the evening surgery a young man or woman comes to get a bottle for a cough. These are young folks who have come from the country to earn a living in the town. They stay in close stuffy lodgings, work in ill-ventilated workrooms, and often live meagrely to send home money to their parents. They often don't get value for the money they do spend on food owing to faulty cookery. Obviously they feel they cannot be off work, so they come to get a bottle to stop the cough, which now annoys others besides themselves. These cases caused us great trouble and were difficult to deal with. To begin with, they did not want to be overhauled or carefully examined. They did not want any palaver about how they lived and ate: they wanted the doctor simply to prescribe something to stop that tickling cough. It was hard to make them understand, without mentioning consumption; but if one did mention it they went to the opposite extreme and gave themselves up for lost. Recently things have improved in this particular. Looking back on such patients, I can recall many who were distinctly early cases. They felt well and had either not enough spit to get tested or the result was negative. A return to a physiological life was followed by recovery. Then what evidence have we of the tubercle? The old signs taught and recorded in the books we must beware of. Rapid pulse, hectic flush, rise of temperature, loss of flesh, &c., are all signs of a phthisis that is not early. They indicate a tubercle that has broken down the body's resisting powers. The early case is one where the resisting powers are still vigorously fighting the tubercle bacillus. Let us go further back the road our apical cases come, and we will find them with no pyrexia, no spit, no night sweats, and no rapid pulse; all we can find is some loss of expansion and resonance at one or both apices. This is both visible and palpable, and the eye and hand will guide us better than the stethoscope. There may be very slight harshness and a bronchial type of breathing, but there are often no accompaniments. Too often that is taken as a proof of no tubercle. Nothing could be more unfortunate. Retraction of the apex is shown by dulness, relative, not absolute. Retraction is due to fibrous contraction. The fibrous contraction is usually the result of tubercle. No other cause need be looked for in 99 cases out of 100. Remembering that the normal lung ought to rise two inches above the clavicle in front, and up to the vertebra prominens behind, we can readily form an opinion as to the amount of retraction.

But you may quite correctly object that there is no proof that this retraction is due to the present illness. Quite true. But the retraction suggesting tubercle, and the patient being ill enough to come to a doctor, justify the fullest resort to a fresh-air life. The effect of this is to turn him into a useful member of the community, and to prevent further damage to those in contact with him. To face these cases with the diagnosis of anæmia and bronchial catarrh is to court disaster. Both these conditions are present, truly, but combined with a diagnosis they are a downright lie, and turn out to be a delusion and a snare. I speak feelingly, for I have to my sorrow occasionally trusted them.

III. Hæmorrhagic.

This type also comes upon us without any warning. I refer here to cases where we are called to treat a hæmoptysis, not to cases that bleed during treatment. Hippocrates laid down the maxim that a spitting of blood leads to a spitting of pus, and the laity fully understand its dread significance. As we have no chance of forestalling these cases, I will pass lightly over this type. Our duty is to suspect tubercle in every case, and to treat as tubercle unless a very clear other source can be proved. The onus of proof lies not on tubercle, but on the other fellow. Remember that many cases bleed very early when physical signs are vague. The bleeding may be taken partly as a failure of that very retraction and fibrosis that we look for to prove tubercle. Even the most expert examination may fail to detect tubercle, and yet the future history shows a progressive phthisis, slow, often like our hereditary type, but certain. Most of us have seen such cases and the moral is clear. Delay is dangerous; in fact, fatal. Moreover, we have an excellent chance to remodel the patient's life in these cases. Unlike the apical case, who does not realise facts, our bleeding patient has had a scare. He is ready to do anything. Also, our best remedy to check the bleeding is pure cold air. He is at once put on the open-air lines, and woe betide us if we let him depart therefrom.

IV. PNEUMONIC.

In these three types we have been dealing with tubercle uncomplicated. But the general practitioner must be on the lookout for it in various disguises.

Osler and other writers long ago pointed out a type of phthisis, clinically indistinguishable from acute lobar pneumonia in the early stages. Forewarned is forearmed, and I have watched for such cases. Auto-suggestion may account for the number I seem to have got. I have come across many cases clinically of acute croupous pneumonia where the resolution was delayed from a few weeks to months; in fact, I have seen all grades from a few days' evening rise of temperature to a typical rapid phthisis ending fatally in a few months. Recognising this danger, the moral for the general practitioner is to suspect all our pneumonias, to guard our prognosis, and to guide our treatment by the danger of tubercle. I have often had to interfere when my pneumonia patients were getting oxygen, to insist on the proper ventilation of the room. It seemed to me mere folly to pump out oxygen and leave a high proportion of CO_2 to neutralise its action. If you can not face up to a fresh-air treatment before the crisis, there is double need for it during convalescence. Warm clothing will remove all danger of chilling the body, and pure air will save most of our cases of badly resolving pneumonia.

A recent case was a young man with a patch of dry pleurisy on his left base. I took him from indoor work and made him sleep with his windows open. He kept so well that he thought he need take no more precautions, and lapsed back to his old life. He took pneumonia in the left base, and died in nine days. I believe it was tuberculous.

V. PLEURITIC.

1. *Effusion.*—This type of case is well known to all of us, and I need not elaborate the description. An acute illness in a young person, with short suppressed cough and sharp pain in one side, may be a pleurisy or a pneumonia at the beginning, but in a day or two when the fluid is poured out and the pain goes the condition is evidently a pleurisy. We have no chance of forestalling these cases, as the pleurisy is our first sight of them. Still, we find that the pleurisy is an early stage of tubercle's attack, and I feel comparatively hopeful

about these cases. I can only recall two that did not recover on an open-air life, and both had very bad surroundings.

Under the old *régime* we were taught to aspirate the fluid, and we often saw those unfortunate cases drag their weary way into phthisis, each tapping being like another milestone on the road. This fluid is splinting and resting the tuberculous lung—a physiological process. In addition, it is giving the lung a spell of that passive congestion which is recognised as beneficial. And when we, in mistaken kindness, remove this fluid, nature does her best to avert disaster by pouring out a fresh lot. I am proud to say I have never tapped a pleural effusion except in heart and kidney cases. I have been tempted at times to tap where the heart was displaced, but the fluid has always shown signs of subsiding in time if the patient could only be treated physiologically by pure air.

2. *Dry.*—A worse kind of pleurisy, in my opinion, is the dry type. The patient who has occasional touches of dry pleurisy is one who requires more care than an effusion. This is a case of the elusive tubercle bacillus on its own beat. The patient is like the early apical case, only not so pronounced. He does not want to be overhauled and saved from his evil ways (I mean his unhealthy mode of life). He simply wants that stitch in his side eased.

He sometimes walks into the surgery, and sometimes we find him at home in bed with a slightly feverish condition called a "cold" or "influenza." As a matter of fact, I believe it is neither. Examination does not reveal much. We may get a friction sound, and there may be evidence of contraction in the same area. There may be slight dulness and a cogwheel rhythm in the breathing. But our main points should be the fact that the patient is below par and has a lesion of his lungs, showing contraction or fibrosis. The immediate outlook for these cases is good. The pleurisy subsides and passes into the background. But if we follow up the further history of such cases we will often find this: he gets well, and resumes life on the old lines. In a year or so he gets another attack, also blamed on a chill or being run down. For several years he remains on the borderland of health, and then he either develops phthisis or he does not. If he does the disease is not usually dated back so far as his first slight pleurisy. If he does not, then no further notice is taken of his pleurisy.

In my opinion the phthisis proves the early attacks to be tuberculous, but failure to end in phthisis does not by any means disprove it.

Recent investigations prove an enormous number of unrecognised foci in the lungs, and such cases probably provide some of them.

And we are too apt to look upon tubercle as a uniformly progressive disease. We expect to see a steady development of the classical symptoms and signs. We ought to remember that the bacilli work by fits and starts—have spells of rest and activity. Each little bout of pleurisy means opening up a new focus of tubercle, liberation of tuberculin with a reaction. This is followed by a period of inaction, during which much can be done to arrest it by regulating the patient's life. But if these valuable months are wasted, we find the bacillus fairly established and going strong.

In all such cases our duty to our patient is not to take any risks. An open-air life will only do good, and our safest plan is not to wait for signs of phthisis. A lowered vitality with any pulmonary sign whatever—shrinkage, pleurisy, pneumonia, or hæmorrhage—calls for treatment as tubercle. And our patients, instead of proving our diagnosis by dying, as they used to do, will better prove our diagnosis by recovering. We can apply the therapeutic test of the open-air.

VI. Post-Zymotic.

The preceding types have been mostly found in young adults, if we except the pleurisy with effusion; but we do get cases of typical phthisis among children, and it is worth while looking back the road they come. All children are probably infected in some degree, but all do not develop tubercle. What decides the onset of phthisis? Probably in most cases a lowered vitality over a prolonged period. And, as general practitioners, what is our commonest antecedent to phthisis in children? Probably most of us will vote for measles and whooping-cough. Measles, with its destruction of lymphocytes and widespread catarrh; whooping-cough, with its prolonged nervous weakness, its severe stretching of the delicate air-cells, and its bronchopneumonia—these diseases seem to supply most of our phthisical children. What is the moral for us as general practitioners? Assume that the child is infected by tubercle bacillus. (It is quite a safe assumption.) Add to that infection measles or whooping-cough, a condition that gives every help to tubercle. The call is clear and obvious. We have no excuse for waiting to see if phthisis will occur as a so-called sequela of the other. Open-air treatment is the clear indication, and, if started early, you will find it works wonders for your bad cases of whooping-cough. My experience is that, if started early enough, the cases do not become bad. In any case, the worst result (short of death during the fever) that can happen is tuberculosis, and it is a wise policy to forestall development. And while we are dealing with the case of children, it is worth while considering the general question of forestalling tubercle. Why not go back to the very limit, as we might say, of prevention? Granting that practically every child will be infected, though it may never develop the disease, it seems to be our duty to make every baby a fresh-air child. We have this opportunity every time we attend a mother with her first baby. At this point in her life we can use the weight of our influence with most effect. This is the time to forestall tubercle, to tell her (without terrifying her) the dangers that lurk in close air, and the grand security that the open air yields. The treatment of phthisis begins in the puerperium.

VII. Influenza Cases.

Just as tubercle steals upon us under cover of measles and whooping-cough in children, so among adults we have it hanging on the coat tails of enteric, alcoholism, and influenza. In all these cases a lowered vitality calls for tonics, but more important than tonics is the free air of heaven. The prognosis in such cases is worse, because the bacillus, usually sluggish, finds its path prepared by the other disease. The moral, of course, is not to wait for tubercle to appear, but in all such cases of lowered vitality forestall it by an open-air *régime*. And here it may be worth while to note that all that is called influenza is not so. Many phthisis cases date their illness back to influenza, but investigation does not always bear out that interpretation. Since the community became saturated with influenza the type has become much milder, and many short febrile attacks are called influenza for want of a better name. They resemble those attacks of dry pleurisy already mentioned, but have no sharp pain. They have fever, malaise, soreness of the body and head, some shortness of breath, and often a cough; but they have not the pain of the eyeballs, the broken-bone feeling in the limbs, nor the great depression of influenza. And they clear up in a few days with rest and diaphoretics or quinine.

The prolonged nervous weakness following influenza is absent. Physical examination usually reveals nothing, though one may suspect that one lung is less resonant than normal. These cases make little impression on our minds because they are soon well, and that seems to make our diagnosis of influenza correct. Yet it is worth while following up the history of these cases. They resemble those cases of dry pleurisy. Each attack gets quickly well, but if the patient's mode of life is not hygienic, they recur with greater frequency and severity until the beginning of a phthisis is evident. How many of such cases there are it is impossible to say; but I am satisfied they do occur, for I have traced them both forwards after seeing them from the start, and backwards after getting them in phthisis. I believe that each of these febrile attacks is a tuberculin inoculation in the patient's body, a liberation of a fresh dose of toxin, but, unfortunately, with active and living tubercle bacillus. We ought to cast a suspicious eye on our alleged influenza cases, and forestall the phthisis by putting them on a physiological life.

VIII. Chronic Fibroid.

The last of my types is that known as the chronic fibroid. This is slow-going, but difficult to arrest, and it lasts for years. Because they do not die in a reasonable time they are not usually looked upon as really tuberculous, so they are allowed to become a source of infection—in fact, many of them are wrongly labelled bronchitis or bronchial asthma, partly because they do not die up to time as consumptives are expected to do. But these cases are different from true spasmodic asthma, and these patients have contracted chests different from the barrel chest of asthma. The chronic fibrosis pulls in the interspaces, and shows what the process is. An acute exacerbation of the process congests the bronchioles and blocks up the air-cells, giving dyspnœa and some râles. Although the public is satisfied that the shortness of breath and the failure to die make it asthma and not tubercle, we ought to scan carefully our so-called asthmatics. These recurrent attacks mark a fresh extension of the tuberculous process in the lung, and they resemble the short pyrexias of the dry pleurisy and so-called influenza; and although we cannot always cure these cases, yet the open-air line of treatment will give us better results than poulticing and cough mixtures, and the earlier we apply it the longer will the patient's life be, and the shorter will the attacks last.

Conclusion.

These being the chief types of pulmonary tuberculosis as met by the general practitioner, we may now ask what help we can get from the specialists towards an early diagnosis. Unfortunately, they do not always agree, but they offer us four chief aids. You will agree with me that it does not lie with a general practitioner to pronounce upon them, especially as they are still somewhat experimental. In any case, time permits only of their mention.

1. *Bacillus in sputum.*—This clinches the diagnosis, but often too late. We ought to prevent the bacilli appearing there at all.
2. *Opsonic index.*—Still on trial, and not always available for us.
3. *Tuberculin.*—The cutaneous and percutaneous methods may become of general service to us. The ophthalmic we may leave out of court. One blind eye would take a general practitioner a lifetime to live down.
4. *X-ray evidence.*—Radiographers claim this as giving the earliest and most conclusive evidence of tubercle. We can see tubercle nodules in a skiagraph before any clinical signs are evident. Yet many physicians hesitate to pin their faith to a shadow. And I find some reluctance to submit to *x*-ray diagnosis as conclusive. Still, I feel sure that improved methods will give us still greater help in this way.

However, I would still incline to accept none of these tests as over-ruling a clinical diagnosis of pulmonary tubercle. The disease is so much more widespread than we have thought it to be, that the early cases must be passing through our hands often unawares. Given a patient in a low state of health and any sign of catarrh or retraction of the chest, we can suspect tubercle and treat as such. And while treating our cases of ordinary apical phthisis, we can also cast a keen and searching eye over our pneumonia, pleurisy, measles, whooping-cough, influenza, and asthma cases. The result, I feel sure, will be to bring home to us the important fact that tubercle of the lungs is a much bigger thing in practice than it is in the medical lecture-room.

CURRENT TOPICS.

Appointments.—The following appointments have recently been made:—

Robert Gordon Bell, M.D.Glasg. (M.B., 1891), F.R.C.S.Edin., to be Medical Referee under the Workmen's Compensation Act for County Court Circuit No. 2, and to be attached more particularly to Sunderland and Seaham Harbour County Courts, *vice* A. E. Morison, M.B., C.M.Edin., resigned.

David Dickie, M.B.Glasg. (1903), F.R.C.S.Edin., to be Lecturer in Surgery at the Western Medical School, *vice* Archibald Young, M.B., resigned.

The Medical Profession and Glasgow Anecdote.—It was hardly to have been expected that in all the numerous books which have been written concerning Glasgow and her citizens the medical profession in the city would altogether have escaped notice. We are therefore not surprised to find that the late Mr. D. Macleod Malloch, in *The Book of Glasgow Anecdote*, has devoted a chapter to the doctors.

Up till the latter half of the sixteenth century the citizen of Glasgow, according to Mr. Malloch, "cared little and new less about Medicine. . . . Life in these distant times was common and cheap. Money was scarce and valuable. . . . Of ordinary ailments he took all the risks. If he recovered, good and well. If he died, it was the Lord's will. In consequence of this delightful blend of parsimony and fatalism the medical profession was long in establishing any satisfactory footing in Glasgow." The author then proceeds to recall the case of Thomas Myln, a salaried surgeon, who, on 3rd June, 1589, was brought up before the Council for speaking "sclanderouslie of the town, calling it the hungry town of Glasgow;" and Mr. Malloch thinks that Myln was speaking from experience.

The origin and rise of the Faculty of Physicians and Surgeons is outlined, the author expressing his indebtedness to Dr. Alexander Duncan's *Memorials*, from which, indeed, he freely quotes. The stirring times of the "Resurrection" are next mentioned, and the story of Professor Jeffrey galvanising the body of the recently executed criminal is fully set forth.

Coming to more recent times, the late Dr. Dougall's *Historical Sketch of the Glasgow Southern Medical Society* is laid under contribution. Of his extracts from this work we would mention the picnic of the doctors to Tillietudlem. Alison's *Anecdotage* supplies some items, and the chapter concludes with two sketches from the columns of the *Glasgow Herald* of recent years.

Mr. Malloch makes no pretence of originality, but his selections are amusing, and our readers will doubtless appreciate the convenience of access to so much Glasgow lore as is contained within the covers of this volume.

EARLY GLASGOW PRINTING: THE FOULIS EXHIBITION.—Under the auspices of the recently-formed Bibliographical Society an Exhibition of Works by the Foulis Press was held during the month of April in the University.

The exhibits were arranged in five sections. The first section contained examples of printing in Glasgow, 1638-1742. We learn from the Catalogue that, although printing was introduced into Scotland in 1507, it was not till 1638 that George Anderson, from Edinburgh, set up his press in Glasgow, probably at the joint invitation of the Town Council and the University. His first print was the "Protestation of the Generall Assemblie" of 1638. Anderson died in 1647, and his widow carried on the business for two years longer; she then returned to Edinburgh. A copy of the "Protestation" was shown; also several examples of the "Hebrææ Linguæ Institutiones," and "ΧΙΛΙΑΣ Hebraica," two books usually found bound together, and the first books printed in Hebrew characters in Scotland. A copy of the first book printed in Latin in Scotland, the "Expositio Analytica" of David Dicson, was also shown.

After Anderson's death Glasgow remained without a printer till 1657, in which year his son, Andrew, settled in the city at the request of the Town Council. In 1661, however, he returned to Edinburgh, his place being taken by Robert Saunders. Since then Glasgow has never been without a printer; but till the appearance of Robert Urie and the Foulises the quality of the work done was as poor as could well be imagined. Specimens of the work of the Saunders (elder and younger), Hepburn, Brown, Hart, and others were exhibited, the section closing with a number of samples of Robert Urie's work.

The Foulis Press was represented in the second section. Robert Foulis commenced printing in 1742, and was joined by his brother Andrew in 1746. After the death of the brothers the business was carried on for a time by Robert's son, Andrew. The latter afterwards removed to Edinburgh, where he died in 1829. The work of the Foulis Press was characterised by attention to typographical detail and by the use of good paper. Over one hundred examples from this press were exhibited, including a copy of the "immaculate" Horace, 1744. As is well known, the proof-sheets were hung up in the College, and a reward offered for the discovery of errors. Notwithstanding the careful scrutiny by many pairs of eyes which this unusual course of proof-reading ensured, we are told that at least six *errata* still remain.

In the third section of exhibits were shown specimens of printing types from the foundry of Alexander Wilson. It was from Wilson's types that the Foulis' works were printed, and as the compiler of the Catalogue says:—"In a Foulis Exhibition one may borrow for Wilson the legend on Sir Christopher Wren's tomb—'Si monumentum requiris, circumspice.'"

The fourth section comprised "personalia" of the Foulis family, and of some of their most intimate friends.

The concluding section was devoted to the "Foulis Academy of Arts," and included many examples of work by students of the Academy.

In the numerical list of lenders to the Exhibition we find the names of Drs. R. M. Buchanan, G. B. Fleming, William Gemmell, J. S. Muir, and Hugh A. M'Lean. Of these, Drs. Gemmell and M'Lean contribute between them no fewer than thirty exhibits.

The thanks of all book-lovers are due to the Bibliographical Society for organising such a splendid exhibition of early Glasgow printing; also to the University for providing suitable accommodation for the exhibits.

LORD ROBERTS' TRIBUTE TO LISTER.—On the occasion of his recent visit to Glasgow, under the auspices of the National Service League, Lord Roberts was, on 7th May, the principal guest at a luncheon given by Lord Glenconner and Sir John Stirling Maxwell in the Central Station Hotel.

In the course of replying to the toast of his health, the guest referred to the "most marvellous reception" which he had had in Glasgow. "I cannot tell you," he said, "how touched I have been by it all. I cannot say that I ever felt so cheered. The very poorest classes have come out and given me a reception. I feel very flattered. I feel rewarded, and I have come here now with my heart full of this business, and I sincerely trust that you will, all of you, think of what I have said and the reasons I have given you. I believe this with Mr. Chapman, who spoke last night, there is nothing that would get over this distinction between classes, this sort of class feeling one against the other, so much as to be all trained in one particular Army. Take a regiment of soldiers—any regiment. I never ask a question, what a man is or what is his religion. They are all perfectly the same to me. There is no question what their rank is. That is what we want to see in this country. It is a democratic country, and one class cannot be above the others in all these points. Nothing would do so much, I am certain, as military training, getting them all in the same boat and trained by one man, the bad fellows in the rear rank and the good in the front. That would settle the question in a way that nothing else would settle it." Continuing, his Lordship referred to his visit two days before to the University, when the Senate conferred on him the honorary degree of LL.D. "When I was at the University I mentioned the names of two or three distinguished men from Glasgow. There is one man I forgot, and I have reason to know what a wonderful work he did for the soldiers—and that is Lord Lister. I forgot that. We had no antiseptic treatment when I entered the Army, and at Delhi when we had no houses. Of course, we had nothing but tents. In the height of summer and the heavy rains of summer the flies were something intolerable—a perfect plague of flies. In the morning when I awoke flies were on the top of the tent, and I used to dread moving for fear they would come down like a plague. You could not eat your breakfast. The wounded men suffered because we had no antiseptic treatment. I can remember walking round the hospital and being almost sick with the smell from putrefying sores. That was before Lister. In South Africa the hospital was like your own drawing-room. I often thought of Lord Lister when going over the hospitals of South Africa. The whole thing is changed and different. I was so sorry I did not think when speaking to you before of mentioning the name of the great man who was a professor in the University of Glasgow. I have to thank you most cordially. You have listened very kindly to a long story. I cannot tell you with what feelings I am going away from Glasgow."

These words of the veteran Field-Marshal are a graceful tribute to the work of Lord Lister; but they convey to us much more. They show that the speaker is a true soldier;

that he recognises that his men have to face enemies worse and infinitely more powerful than those of flesh and blood; and that he is full of generous admiration of the leader in the warfare against the unseen foe. The greater portion of his speeches in Glasgow was devoted to military subjects—subjects in which he is an authority. His masterly appreciation of a matter of which we, as members of the medical profession, are competent to judge, must lead us to place more and more weight on his military utterances. Lord Roberts has told us, his fellow-citizens, a "plain tale": it is for us to see that we do not cast it aside without careful consideration. It contains facts and opinions. The facts we have to accept; the opinions we must take as authoritative, and not to be lightly rejected.

SIR JAMES DONALDSON ON THE FRENCH UNIVERSITIES: CONGRESS OF THE ALLIANCE FRANÇAISE IN ST. ANDREWS.—For the first time since its foundation in 1883 the Alliance Française has held a Congress outside France, and on 8th May, 120 delegates attended the opening session in the hall of the United College, St. Andrews. Principal Sir James Donaldson presided, and the members of the Congress were introduced by Professor Salmon, who, in the course of his remarks, took occasion to thank Sir James Donaldson for offering to the Congress the hospitality of the University.

Sir James Donaldson, in reply, said he was proud indeed to have the honour of presiding at that meeting. He regarded it as an honour to their University. He sympathised entirely with the objects of that Alliance, which he was sure would do a great deal of work in uniting the two nations together in a friendly and affectionate attitude towards each other. That society concerned itself with a wide body of interests. They had encouraging it the Government of France and the universities of France, and they had besides a large number of cultivated men, some of them engaged in commerce, who were anxious to work it up; and in that way they had a combination of rare interests working in a noble spirit for the accomplishment of a great object. He was extremely interested in the position of the universities of France at present, and it was a matter of deep satisfaction to him that the universities of France had reached the position they now occupied. A long time ago M. Jules Simon published a beautiful book on the School, and at the head of the first page he had words to this effect—"The nation that has the best schools will be the first nation on the earth; if it is not to-day it will be to-morrow." A noble sentiment, showing how deeply he felt the value of education. The French had been working at that, and now, to a large extent by the efforts of the Vice-Rector of the University of Paris, M. Liard, whose works were full of instruction in that matter, the universities of France had reached what he (Principal Donaldson) regarded as the highest position which universities anywhere could reach. All the universities were based on principles which were the sound principles of an ideal university. The French Government had absolutely abolished fees for teaching, though there were fees for graduation. The universities were open, as it were, to the whole country. That was a great matter, because there was no doubt it was the question of fees that had to a large extent affected the laying out of the system of education. A feature of the French universities as now established was that the student could go where he liked. If he intended to take a degree he had a certain number of subjects which he could fix upon as subjects which he was going to work out and investigate, and present the results. He was allowed to go to any professor he liked. He was not trammelled with this or that subject, but chose the man whom he thought would do him the most good, with the result that the student was always happy with the professors and they were happy with him. He studied the subject with all his heart. The other feature of the case was that the professors were free. They were not bound in any way, and the students were examined in a way that was intended not to puzzle or harass them but to find out whether they had done good work in the subject they were investigating and whether they loved the subject. The final success of all education was "that you loved the subject you were studying." Our Government was a good deal behind, and apparently it would be a while before it made up that business. They never knew in this country; but the Budget might come out very different from what it had of late in regard to universities. They in St. Andrews were very glad to see the members of that congress. They offered them a hearty welcome, and hoped their work would be for the permanent good of France and this country, for the welfare of this country was involved in the welfare of France and of humanity.

STONEHAVEN: RESIGNATION OF PROVOST M'KENDRICK.—An interesting function took place in Stonehaven Town Hall, on the evening of 21st April, when Professor M'Kendrick was invested with the chain of office prior to his resigning the provostship of the town.

Professor M'Kendrick was elected to the provostship of Stonehaven in the autumn of 1911, and he has since carried on with much acceptance the many duties connected with the post. Indifferent health, however, has for some little time past prevented his being so active as he felt was necessary, and he has thought it his duty to tender his resignation.

When Professor M'Kendrick was elected, the provost appeared in public on ceremonial occasions in a scarlet robe of office; but during the past year the people of Stonehaven subscribed for a gold chain. It has only recently been completed and presented to the Town Council, and on the Council learning of Professor M'Kendrick's proposed resignation, they thought that it would only be fitting to invest him with the chain before he demitted office.

The Provost thanked the Council for the honour which they had conferred on him, and in the course of his remarks referred to various municipal enterprises which had been undertaken during his term of office, and which he hoped would be found of lasting benefit to the town.

State Registration of Nurses.—A deputation from the Central Committee for the State Registration of Nurses was received by the Prime Minister on 28th April. Dr. Chapple, M.P., introduced the deputation, and stated that practically the whole of the institutions connected with nursing and attendance on the sick were represented, and that they felt that if the Prime Minister could give facilities for a bill aiming at State registration this country would come into line with others which had already passed this reform and had found it very successful both in the interests of the public and the nurses.

Sir Victor Horsley remarked that on the last occasion (four years ago) on which Mr. Asquith had received a deputation from the committee he had told them that the various interests concerned were not unanimous in making their demands, because he held in his hand expressions of opinion in opposition by various medical and nursing authorities. Sir Victor Horsley was not aware of any nursing body having passed a resolution hostile to the objects of the deputation. The opinions to which Mr. Asquith had referred could not be held to represent the views of the medical profession, and they should not be anonymous. Those who asked for this reform asked for it publicly, and the opposition also should be public.

He hoped that Mr. Asquith would, on behalf of the Government, accept the view that State registration was necessary.

Miss Cox-Davies spoke on behalf of the matrons and nurses, and urged the need of registration. Dr. D. J. Mackintosh, M.V.O., stated that there was no opposition at all in Scotland to the proposals urged by the deputation: they were supported by the whole nursing profession. Dr. M'Gregor-Robertson corroborated Dr. Mackintosh's statement.

Mr. Asquith was discouraging in his reply. He had given on the former occasion to which Sir Victor Horsley referred a wearisome catalogue of those who were opposed to any change in this matter. The list had been brought up to date, and, consisting as it did of ninety-one chairmen of hospitals, it was now a more formidable and menacing array than it had been before. There were also among the opponents 66 London matrons and 178 provincial ones, 1,332 nurses, and 340 doctors. In view of these facts it was impossible to say that there is anything like unanimity in the medical or even in the nursing professions on this matter. From a purely parliamentary point of view, therefore, he could not say that, if the Government gave this measure facilities, it would have the sympathy of the House and an easy course, and not excite a great deal of opposition. Until they had substantially mitigated that somewhat formidable opposition he could not honestly say that he thought any Government could give facilities for a bill which is of a definitely controversial character. He thought it might be desirable if they conferred with the chief opponents with the object of coming to some agreement with them; and in answer to a request by Sir Victor Horsley, the names of the opponents were supplied.

Thus concluded the meeting, and we would seem to be where we were as regards the State registration of nurses. But it is likely that more will yet be heard in this important matter, as from Sir Victor Horsley's remarks it is probable that a campaign will be started on without delay. It will be interesting to learn the objections which the opponents of registration hold.

"GARTNAVEL GAZETTE."—We have, by the courtesy of Dr. Oswald, received a copy of the January issue of the *Gazette*, a periodical which we have favourably noticed on several former occasions.

The present issue contains crisp editorial "pars" from which we learn something of the entertainments organised to entertain the patients during the long winter evenings. There is a well written article describing a visit to the Lake District. This is followed by a little *causerie* on books, "Tit-Bits from Cleveland," an account of a holiday jaunt to Grantown-on-Spey, and various verses. The number concludes with the first instalment of an article on King James IV and the early Scottish Reformers.

The editor of the *Gazette* deserves thanks for the good things which he purveys for his readers.

State Charities Commission of Illinois: Third Annual Report.—The third annual report of the State Charities Commission of Illinois to the Governor has just been issued. The report, which is for the year ending 31st December, 1912, deals with the mental hospitals, jails, and almshouses in the State.

The commissioners recommend the development in Illinois of psychopathic hospitals for the treatment of distinctly acute cases of mental diseases, and the farm colony institution for the care, custody, and re-education of the chronic insane. The present law should be modified so as to encourage voluntary admission of patients in the very earliest stages of their trouble. The commissioners also believe that all students for a degree and a licence to practise medicine should be as thoroughly educated in this as any other branch of medical science.

The rapid increase in the number of feeble-minded is appalling, and racial self-preservation demands action. The public must be educated to the dangers of the feeble-minded in the pollution of the racial stream, and the commissioners hold that legislation that will segregate them and prevent their procreation is essential. They refer to the Mental Deficiency Bill at present under consideration by the Parliament of Great Britain, and "when it finally becomes a law it will probably be a fit example for other countries to follow."

The commissioners recommend the establishment of a state colony for epileptics, and the segregation of the insane epileptic.

The remainder of the report deals with the administration of jails and almhouses and the organisation of private charity.

It is an interesting document, and should be read by all who have to do with the administration of asylums.

American Proctologic Society.—The fifteenth annual meeting of the American Proctologic Society will be held in

Minneapolis, on 16th and 17th June, under the presidency of Dr. Louis J. Hirschman. From the preliminary programme which we have received we learn the president will address the meeting on "Proctology and Procto-enterology," and there is a long list of papers to be read by Fellows. These deal with various diseased conditions to which the rectum and anus are subject, such as fistula, hæmorrhoids, plastic operations on anal stricture, ano-rectal fibrosis, pruritus ani and its treatment by autogenous vaccines. There are also papers promised on intestinal parasitism, gastro-enteric motility, diarrhœa, &c. Judging from the programme, the meeting promises to be an interesting one. Further information may be had from the secretary-treasurer, Dr. Lewis H. Adler, Jun., 1610 Arch Street, Philadelphia.

THIRTIETH ANNUAL REPORT OF THE ROYAL HOSPITAL FOR SICK CHILDREN, GLASGOW. — The report of the Royal Hospital for Sick Children for the year ending 31st December, 1912, has just been issued. The number of cases treated in the *wards* during the year, compared with the number for the preceding year, is as follows:—Patients in hospital at close of the preceding year, 69 (71 in 1911); admitted during the year, 1,139 (1,024 in 1911); total treated during the year, 1,208 (1,095 in 1911).

Of the above cases, 530 were medical and 678 surgical, as compared with 474 and 621 respectively in the previous year. The Dispensary supplied 249 of the medical and 213 of the surgical cases admitted. Of the total cases admitted, 237 were infants under one year, and 206 were over one and under two years of age, as compared with 192 and 168 respectively last year, and 166 and 163 respectively the previous year. Attention is drawn to the continued increase in the number of very young children treated.

During the year there were 188 deaths. The percentage of deaths to the total discharged was 17·81; but, excluding 41 children who were so ill when admitted that they died within 24 hours thereafter, the percentage is reduced to 13·8 as compared with 12·17 the previous year.

The average daily number under treatment in the hospital was 73·35 as compared with 71·19 last year, and the average duration of residence of patients discharged from the hospital was 22·84 days, as compared with 26·5 days for 1911.

The average number actually on the books as awaiting admission at the close of each month throughout the year was 64. In addition, there were many others who sadly required hospital treatment, but whose names were not taken, as there was no possible chance of admission until after a very prolonged period of waiting.

The ordinary expenditure of the hospital was £4,843, 11s. 10d., while last year it was £4,497. This makes the average cost of each occupied cot for the year £66, 0s. 4·65d., as compared with £63, 3s. 2·45d. in 1911.

At the *Country Branch* at Drumchapel many more than the regulation number of 26 cots could easily have been utilised. In all 134 patients were treated, being the same number as last year, the average daily number under treatment being 25·6, and the average residence in the Branch of patients discharged being 110·37 days as compared with 106·29 days the previous year. The treatment of certain classes of cases sent to the Branch is necessarily prolonged, and several patients in the Branch have been in residence more than a year. This circumstance materially affects the number of cases treated and increases the average period of residence and the cost per patient.

The ordinary expenditure of Country Branch was £1,650, 2s. 3d., while last year it was £1,402, 15s. 1d. The average cost of each occupied cot for the year was £64, 9s. 0·7d., as compared with £49, 14s. 0·2d. for 1911.

The following table shows the work done at the *Dispensary*:—

	1911.	1912.
Medical cases, ...	10,810	9,364
Surgical cases, ...	3,747	3,381
Total new cases, . . .	14,557	12,745
Subsequent attendances, . .	38,196	36,235
Total attendances, .	52,753	48,970

Of the cases treated 3,016 were under one year, and 4,075 were over one and under three years of age, as compared with 3,463 and 4,422 respectively last year.

In addition to the work in the Dispensary, the sisters and nurses paid 931 visits to 464 patients in their own homes.

The ordinary expenditure of the Dispensary was £1,563, 17s. 0d., compared with £1,899, 6s. 5d. the previous year, representing an outlay of 2/5·35 per patient treated, including the cost of medicines supplied. Taking attendances at the Dispensary and home visits together, the cost of each act of personal service rendered in the practice of the Dispensary was 7·52d.

In the special departments the cases treated were as follows:—

	1911.	1912.
Diseases of the ear, throat, and nose,	719	701
Do. eye, ...	344	198
Do. teeth, . . .	333	357
Electric battery and massage cases, .	6,177	5,304

As regards *finance,* the following table shows how certain of the figures compare with those of last year:—

	1911.		1912.	
Ordinary income, . . .		£7,942 9 1		£8,127 10 8
Ordinary expenditure—				
Hospital, .	£4,497 0 0		£4,843 11 10	
Country Branch,	1,402 15 1		1,650 2 3	
Dispensary, .	1,899 6 5	7,799 1 6	1,563 17 0	8,057 11 1
Surplus, . . .		£143 7 7		£69 19 7

The increase in the income is satisfactory, but it is not equal to the increase in the expenditure, and it must be borne clearly in mind that when the new hospital is in operation a very much larger increase in the ordinary annual revenue will be absolutely necessary to meet the increased annual expenditure which will be required fully to develop the usefulness of the new building. It is hoped that the latter will be ready for occupancy early in 1914.

The directors remind the public that the Insurance Act does not make any provision for children in sickness, and they trust the public realises this fact and will bear it in mind in subscribing.

R.A.M.C. (T.F.): GLASGOW UNITS.—The Glasgow Units of the Royal Army Medical Corps (Territorial) held their church parade on the afternoon of Sunday, 18th ult. The Units paraded at Charing Cross under the command of Lieutenant-Colonel A. D. Moffat, T.D., M.D., and marched by way of Woodside Crescent and Kelvingrove Park to the University, where, by kind permission of the University Court, divine service was conducted in the Bute Hall.

The preacher was Rev. Dr. D. Macmillan, junior chaplain to the corps, assisted by Rev. Dr. T. Adamson (senior chaplain) and Rev. Professor Milligan. The lessons were read by Colonel D. J. Mackintosh, M.V.O., Assistant Director of Medical Services, Lowland Division, aud Lieutenant-Colonel Moffat. There was a good turnout of officers and men, and the service was attended by a large number of the general public. A collection in silver was taken in behalf of the Royal Hospital for Sick Children.

At the conclusion of the service the Units fell in in front of the tower, and, marching past the Assistant Director, who was accompanied by Principal Sir Donald MacAlister, K.C.B., proceeded by way of Dumbarton Road to Overnewton and Yorkhill, where they were dismissed at their headquarters in Yorkhill Parade.

NEW PREPARATIONS, &c.

From Messrs. Alfred Bishop, Limited.

"*Hydropyrin*" and "*Kalmopyrin.*"—These are stated to be respectively lithium acetyl-salicylate and calcium acetyl-salicylate. They are presented in the form of light, fine, white powder, and are freely soluble in water. This in many cases presents great advantages over the older drug, acetyl-salicylic acid itself, which is, of course, by no means freely soluble. It is stated that these salts are very stable, and can be given combined with other drugs: the hydropyrin is soluble in alcohol, and may be given with tinctures. They have a slightly saline taste, which may be readily disguised by a simple corrective. They are advanced for use as antipyretics, analgesics, diaphoretics, and antirheumatics. Hydropyrin (the lithium salt) is advised in the uric acid diathesis in preference to the calcium salt.

The lithium salt is said to contain 3·76 per cent lithium and 96·24 per cent of ac. acetyl-salicyl., while the calcium salt is said to contain 10 per cent of calcium and 90 per cent of ac. acetyl-salicyl.

They are well worthy of trial.

From Messrs. Burroughs Wellcome & Co.

"*Enule*" *Epinine.*—These "enules" contain $\frac{1}{6}$ gr. epinine, the new synthetic drug, which has an action like that of the active principle of the suprarenal gland, and are for use in cases of bleeding from the lower bowel. The suppositories are of the special bulbous shape adopted by this firm. Each "enule" is wrapped in tin foil, and is placed on a separate notch in a metal rack contained in an aluminium coloured metal box, which is sealed with a strip of paper. They seem quite homogeneous, and melt quite readily.

Tuberculins: Notes on Their Preparation and Use.—A neat *brochure*, with coloured illustrations. It gives a brief but clear exposition of the subject at the present day, and includes a price list of the various tuberculins, "Wellcome" brand. It is well worth reading and preserving. It will be noted that tuberculins for diagnosis (ophthalmic) and for treatment are now supplied in the dry form as pellets, "tabloid brand."

REVIEWS.

Diet Charts: For the Use of Physicians. Part I (Second Edition) and Part II. By J. Craik Taylor, M.B. London: Suttley & Silverlock, Limited. 1913.

In Part I are diet charts for (1) Fevers, &c., (2) Convalescence and dyspepsia, (3) The nursing mother, (4) Infant feeding, and (5) Constipation; while Part II contains diet charts for (1) Bright's disease, (2) Diabetes and glycosuria, (3) Rheumatism (acute and chronic), (4) Phthisis, and (5) The feeding of school children. Each set—perforated for removal—is prefaced by a page of general considerations and directions.

When we reflect how liable is the spoken order to be wrongly carried out, and how great is the temptation for the patient to let inclination distort or lull memory, especially in the matter of meat and drink, we cannot but feel that all who have not had such lists printed for themselves ought to be profoundly thankful to this author for his compilations. It is of course quite impossible to draw up a dietary that will satisfy every physician or be best for every example of a given disease, and it is expected by Dr. Taylor that the medical man in charge will delete such items as he may think unsuitable for his particular case and underline those articles that he considers specially indicated. These tables are very carefully compiled and are most comprehensive; and the "points to be considered," placed in front of each set, offer information and advice that are both sound and valuable. But, as already suggested, in treating of these subjects Dr. Taylor cannot expect, any more than the man with the ass, to please everybody. Than what we should eat and what we should drink, nothing more discussed exists to-day. We readily admit that the writer under consideration could produce a horde of witnesses to support the directions here detailed; nevertheless, we beg leave to differ with him, for his gods are not our gods, and his experience has evidently not been our experience.

Thus, in the dietetic treatment of habitual or chronic constipation (Part I, 5) there is a prescription of bulky foods containing much indigestible residue which we cannot sanction, since we believe with Dr. Leonard Williams (*Minor Maladies and Their Treatment*, 1913, p. 104), that "the addition of such articles as oatmeal, brown bread, figs, prunes, and the like, to the diet of a costive person, though it may prove of temporary service in certain cases, is not only unlikely to effect permanent improvement in chronic constipation, but in bad cases, by increasing the quantity of material in the already overfilled and sluggish colon, it is likely to do a great deal of harm. The amount of undischarged matter is augmented, and the toxins are supplied in greater abundance. These articles of diet, when they act at all, do so by mechanical stimulation of the intestinal mucosa; and if the mucosa is insensitive to slight stimulation, as in all cases of the real malady it invariably is, their ingestion can have but one result—that, namely, of filling up the intestinal cesspool. These articles are useful in the slight occasional costiveness of otherwise healthy people; in the treatment of real chronic constipation they are worse than useless."

Nor can we approve of the advice here tendered as to the dieting of patients suffering from phthisis pulmonalis (Part II, 4):—"Not less than five meals should be given per diem, and, in addition, there should be given a half pint of milk with oxyqua or soda each morning before rising, and half a pint of warm gruel . . . should be offered to the patient, to be slowly taken as he is retiring, or before composing himself for sleep at night." Such practice, in our opinion, disaccords with both sanatorium and laboratory experience. No more do we consider it wise to set down on the chart itself—"Breathing exercises should be carried out, unless specially forbidden by the doctor, at least three times each day." We are surprised, too, that the compiler does not mention either ices or salads in his dietary for consumptives, and that he attaches so little importance to potatoes. And, though in no wise tainted with the prejudice of Sir John Falstaff, who, on a memorable occasion, angrily declared, "I'll no pullet-sperm in my brewage," we most certainly think that Dr. Taylor goes much too far when he counsels, in large print, that "raw eggs cannot be taken too often."

Otherwise we have nothing but praise for these charts, and we cordially recommend them, feeling confident that, in offering to the patient a most varied and appetising selection of suitable gastronomic dainties from which to compose his menu, the author has provided what should keep all but the gourmand from straying, and what will save the practitioner much time and trouble.

The Course of Operative Surgery. By Professr Victor Schmeiden. Translated by Arthur Turnbull, M.B.Glasg. London: Baillière, Tindall & Cox. 1912.

This volume is the first English edition of Professor Schmieden's book, which has already reached two editions in German; it is therefore practically a new work to English readers. We may say at once that it is an excellent textbook as far as it goes. It is intended to be the course of operative surgery, that is, on the dead subject. We think that practitioners will not find it satisfying as a guide in the practice of operative surgery on the living, but for the purposes of the student we do not know of any better book. The descriptions of the operations are not fulsome, nor are they unduly concentrated; frequently they are involved, possibly because the German text is too rigidly followed in the translation. The illustrations are a notable feature of the work: they are exceedingly numerous, yet we have seen none that was superfluous. They are mostly excellent drawings, anatomically accurate, yet not ever-elaborated, and where photography has been employed it has been with judicious care. We are glad to find that the translator has here and there inserted notes and explanations. In the chapter on hernia the only operation described is Bassini's: we think the footnote containing in a few lines the essential features of Macewen's operation is properly added. And similarly readers learn of the Macewen method of controlling the abdominal aorta in disarticulation at the hip-joint. We cannot agree at all with the author's view of the value and harmlessness of Momburg's abdominal compression method.

There is curious looseness of style in the English of this translation. One is frequently irritated by the variability in operation descriptions. The author may begin a paragraph in the third person, then a few sentences later employ the first person, then lapse into the imperative mood, and finish in the descriptive third person. Then the word "half" is frequently used when only a portion is meant. It may be that the translator is keeping closely to the original German. If so, we think it is a mistake. It has been the translator's aim "to make of this a living English book": in our judgment it still is essentially German. In the last paragraph of the translator's preface we find the naive remark that he "believes that the book will become the student's handbook in every college where English is the medium of surgical instruction." Surgery is a science that knows no special tongue, and everything that contributes to progress is welcomed in whatever language it is written. But we do not believe that the English speaking student requires yet to go outside his own country for a worthy text-book of operative surgery.

Enlargement of the Prostate: Its Treatment and Radical Cure. By C. MANSELL MOULLIN, M.D., F.R.C.S. Fourth edition. London: H. K. Lewis. 1913.

THE interest in the pathological changes in the prostate associated with advancing age is not likely ever really to abate. The operative treatment is now tolerably firmly established, at all events as regards the common adenomatous enlargement, and since Freyer so strenuously popularised the M'Gill operation it has taken a permanent place in literature as well as in practice. But there are still many problems to be elucidated, and the operator is still frequently enough confronted with a case which cannot be dealt with by the "comparatively simple operation" described by the author. These things are all fully discussed in Mr. Mansell Moullin's monograph, whose fourth edition we have pleasure in bringing before our readers. He has practically expunged all methods of treatment except the operative. He is confirmed in his opinion that operation—that is, early operation—will prevent all the consequences caused by prostatic enlargement without undue risk, if only the bladder and the kidneys have not been damaged beyond repair.

Chloride of Lime in Sanitation. By ALBERT H. HOOKER, Technical Director, Hooker Electrochemical Company. London: Chapman & Hall. 1913.

WRITING from the inspiring surroundings of Niagara Falls, the author in his preface states that, acting on the advice of the President of the American Institute of Chemical Engineers, the research department of the Hooker Electrochemical Company undertook to collect all data relating to the uses of chloride of lime in sanitation. In doing this the author states that a large amount of important information was obtained, and the fact clearly revealed that chloride of lime (chlorinated lime is the term which ought to have been employed, as the author must be aware) was one of the most valuable and economical agents available for the protection of the public health. On the other hand, it might be permissible to point out that this is by no means a new discovery, and it is just doubtful if any new light has been obtained by the data given here. It would have been well if the author had, within the same book covers, stated the *objections* to and disadvantages of the use of chlorinated lime under many conditions where otherwise its use would be almost ideal. These disadvantages are so many, and often so important, that chlorinated lime cannot be said to fulfil the ideal requisites of a universal disinfectant.

Chart of the National Health Insurance Act.

THIS *Chart* is published by the Organisation Society, Buckingham Street, London, W.C. In the first number of the *Organisation Society Review* it is stated that a few minutes' study of this *Chart* will enable any individual to immediately locate his or her exact position in relation to the provisions of this intricate Act. It is also stated to be invaluable to doctors, but if so the value appears to be chiefly negative, as his exact position, remuneration, &c., do not appear. The *Chart* is otherwise an ambitious one, with its parti-coloured border and its various divisions into intellectual, moral, æsthetic, emotional, vital, physical, and genetic columns. As a matter of fact, not even those responsible for its inception can explain the Act, and all this *Chart* does is to divide the Act into various artificial sections with extracts in each case.

Second Annual Report of the State Charities Commission. Springfield, Illinois, December, 1912.

THIS volume contains a number of reports on the various Charities of the State of Illinois, and gives a remarkable picture of the thoroughness with which the investigations detailed have been carried out. Interesting information is given as to system, organisation, clothing, food, &c., and the inmates appeared to be well cared for in every respect.

There are also reports of inspections of county jails visited during 1911, as well as public and private relief associations.

The information is very full, and is in many respects worthy of imitation on this side of the Atlantic.

Synopsis of the Laws of the United States, Canada, Mexico, and Porto Rico. Cambridge, Massachusetts, U.S.A.: H. O. Houghton & Co. 1912.

This bulky volume contains an abridgment of the chief laws of the various States and Provinces indicated by the title, and should be found useful as a book of reference by all who contemplate founding a home in the new world. In a general way it is interesting to note that the laws are framed to a very considerable extent upon the laws of this country, which is certainly rather unexpected in the case of the United States. No detailed criticism is possible; but as the sections are revised to the end of November, 1912, in each case by local authorities, there appears to be every reason to accept the statements as official.

The interest to the medical profession of this country is not great, but even here the book may be found useful for reference upon occasion.

A Manual of Infectious Diseases occurring in Schools. By H. G. Armstrong and J. M. Fortescue-Brickdale. Bristol: John Wright & Sons. 1912.

As a general rule it is undesirable to put laymen into the position of diagnosticians; but, like most rules, there are some exceptions, and this little work must prove of the very greatest help to teachers in schools, who may by its aid detect the early signs of infectious disease from which a pupil may be suffering unknowingly. We all know what evil may result from the accidental introduction into a school of a disease like mumps, measles, or scarlet fever, to mention three examples which are not infrequently present in large schools without the knowledge of the teacher.

But not only in the limited sense indicated above will the book under review be of value. It is so carefully, simply, and yet exhaustively compiled that the medical practitioner himself will find information to hand, which otherwise has usually to be sought for rather painfully in the larger treatises on medicine.

The first chapter, on "The specific infectious diseases," is admirably put, especially that part dealing with the various methods of transmission of disease, prophylaxis, and disinfection.

The succeeding five chapters are taken up with the detailed consideration of the acute exanthemata (measles, rubella, scarlet fever, and chicken-pox). Careful descriptions of the incubation, prodromal, and eruptive stages are given in all cases, with sections on complications, diagnosis, prognosis, and treatment. Charts are shown of the typical temperature curves, and photographic illustrations are given of measles, scarlet fever, and chicken-pox. Naturally the illustrations are not so helpful as they might be, as the want of colour is a very great disadvantage; but Plate II, showing the desquamation stage of scarlet fever, is almost as good as a coloured plate.

The table on pp. 56 and 57, comparing and contrasting the three diseases, measles, rubella, and scarlet fever, is of not inconsiderable value.

Chapter VII, on mumps, while free from defect as to its matter, is altogether too short; three pages is far too little to devote to this by no means unimportant affection, which often causes widespread illness and suffering in schools, and is very liable to be missed, if slight, on the account of the absence of rash. The same remarks apply to Chapter VIII, on whooping cough; in this chapter the author wisely draws attention to the importance of the blood examination where exposure to infection has occurred, and as yet no definite symptoms are present.

Diphtheria naturally comes in for more detailed attention, and the chapter on this disease is fairly complete. The prophylactic use of anti-diphtheritic serum is mentioned as well as its normal curative employment.

Typhoid fever also gets considerable space devoted to it, and, as a whole, no fault can be found here except the omission on the author's part to indicate the high value of a leucocyte count where the disease is suspected and Widal's test is negative. This method of diagnosis, of course, would be of no value to the layman, but it might be indicated in the same way as Widal's test is. Besides, in a previous page, mention is made of the value of the leucocyte count in possible cases of whooping cough.

The recent method of prophylactic inoculation of typhoid vaccine is described, and its possible dangers indicated.

There is a short chapter on cerebro-spinal meningitis, with some rather pessimistic though justifiable remarks as to the value of serum treatment in this disease.

A very short chapter is devoted to epidemic polio-myelitis.

Chapter XIV deals with the infectious diseases of the eye, and is written by R. W. Doyne. Naturally this subject can only receive very superficial consideration in a chapter of nine pages, but as far as it goes it is helpful, and, after all, too much active lay treatment of eye conditions is to be deprecated.

The chapter on ringworm is by H. Aldersmith, and nothing but unstinted praise is due this section. Alike in its style, completeness, and the plates which illustrate it, this chapter is excellent.

The concluding chapter, on school epidemiology, is of high value, and the author's recommendations can be most strongly supported in the interests of the pupils, teachers, and parents alike. The value of the suggested records, tables, and certificates is great, and with their accumulation their value will become even greater. No school at the present time, whether public or private, should neglect a single one of the precautions which in any case are for the benefit in every way of pupils and teachers alike.

This is one of the few books bearing on infectious disease as it affects schools which can be most heartily recommended to the medical and teaching professions.

There is a useful, but much too limited, glossary of technical terms at the end of the book.

The Malthusian Limit. By EDWARD ISAACSON. London: Methuen & Co. 1912.

THE cry of "Back to the land" is no new one, and many social economists of the highest eminence see in this movement a solution for many social and other evils; but so long as the method is in no way compulsory the appeal falls on deaf ears, in this respect curiously resembling the view of the nation as a whole to Lord Roberts' recent exhortation.

Undoubtedly the population of the world in general, and possibly of these islands in particular, has increased and is increasing to such an extent that even the possibility of its being self-supporting in the future is a very grave question indeed. Is the time at hand when we must once more carefully scrutinise the doctrines of Malthus and see if it be possible to find salvation therein?

The author states (page xxv of introduction) that population increases in geometrical proportion while the food supply can increase only in arithmetical ratio. This is true up to a point only. In all our large cities we are finding, more and more markedly as time goes on, that the increase is *not* in the geometrical ratio which we have been taught to anticipate, and it is equally clear that this arrestment is not merely a temporary one but is one which will almost certainly progress until the increase of population in any centre gradually dwindles from a geometrical to an arithmetical ratio, from this to equilibrium, and finally to an actual *decrease.* When this latter event has been in action for a considerable time it might appear that the problem of over-population relative to the food supply has been solved. But has it? Nothing could be more fallacious than to affirm that the problem is any nearer solution by the advent of this for a time more or less stationary population. To apply the author's own illustration on page 106 (only in another sense from that intended by the author), the healthy savages of other countries will step in and quickly take advantage of the first indications of "race suicide" thus shown. Then we have even yet the acknowledged possibility of vast pandemic and deadly diseases to reckon with. Our own experiences in the Boer War scarcely ten years ago, and the experiences of the nations under arms in the Near East at the present time, should give us pause in our calculations.

Probably when the time comes—if it ever does come—that the whole of, say, Europe is one nation, the rational and inevitable expedients indicated by the author—viz., infanticide, limitation of births, and restriction of the sexual functions to a proportion of the population only—will all be in operation; and the problem of the superfluous woman will be an even harder one than that of the superfluous man. In this connection the author's analogy with the case of the bees in the hive and the apportionment of their duties, sexual and otherwise, is not a little interesting.

The author is right in pointing out the terrible wastage to the community at present from mal-directed use of the sexual functions. He instances the fact that in New York alone, with its 100,000 prostitutes, reckoning the cost of each annually in this way to the community at £100, the actual loss to the city is no less than £10,000,000 per annum. Of course, even here it must not be conceived that the actual loss in hard cash is anything like this, as in any case these individuals must be fed and clothed whether they engage in legitimate occupations or not.

The classification, suggested by the author, of women into the four groups indicated is, like most classifications of heterogeneous units, only partly effective.

The exposition of such important economic problems is full of interest for the thoughtful reader, even though (as in the case of the fuel question) the consequences must be brought home much more vividly to the individual than is possible at present, when it is like the "cloud no bigger than a man's hand" in a sky of otherwise unsullied azure.

Statistics of Puerperal Fever and Allied Infectious Diseases. By George Geddes, M.D., C.M.Aber. Bristol: John Wright & Sons, Limited. 1912.

This book of 116 pages is largely made up of a series of very elaborate statistical tables from which the author draws conclusions as to how puerperal sepsis is influenced by (1) atmospheric conditions, (2) by proportion of persons per acre, (3) by erysipelas, (4) by diphtheria, (5) by scarlet fever, (6) what is the determining factor? and (7) who is responsible?

We shall only refer to his conclusions in reference to (6) and (7), as the conclusions in reference to the others are what any one with experience in midwifery work would expect. As to the determining factor he says, "*Puerperal fever is a wound infection. The source of a wound infection may be found in another wound.*" He concludes from the evidence of his statistics, "That puerperal infection is largely, if not entirely, due to contamination directly by, or indirectly through, suppurating wounds, and therefore that the high puerperal rate in manufacturing and mining districts is explained by the high accidental rate in those districts." In those districts where there are many accidents the doctors have to attend to many cases of suppurating wounds, and hence the liability to contamination of their hands.

As to who is responsible, the author concludes that both midwives and doctors are to some extent, but the doctor must "accept the larger share of responsibility, and necessarily so, since he is far more likely to carry infective organisms about on his hands and clothes, being exposed as he is to daily contamination from suppurating wounds or infectious diseases." He maintains that every general practitioner who has to dress septic wounds should take precautions to prevent his fingers and clothes from becoming contaminated, and that before he makes a vaginal examination he should disinfect his hands as carefully as a surgeon does before doing a major operation. Specialists in midwifery have insisted upon this for many years, and it is encouraging to find that, at least, one general practitioner has been forced to come to the same conclusion from his own experience, and what is more, has had the courage to say so. He states that many years ago there was a correspondence in the *British Medical Journal* upon this subject, and at that time he thought there was something to be said for one of the correspondents who prided himself on how little care he took in washing his hands when called upon to act as an accoucheur. It is interesting to note that the correspondence arose from a paper published by a member of the staff of the Glasgow Maternity Hospital. It should be a source of gratification to the author of that paper, that even after many years at least one general practitioner has had the courage to say that the views then brought forward were correct.

The production of such an elaborate series of statistics must have entailed an enormous amount of careful work. We congratulate the author on the result of his work. To specialists it should be a source of gratification to find a general practitioner advocating views which they have held for so many years.

Microbes and Toxins. By Dr. ETIENNE BURNET. Translated from the French by DR. CHARLES BROQUET and W. M. SCOTT, M.D. London: William Heinemann. 1912.

AT the present time this translation is singularly opportune, as even now there is considerable confusion among not a small proportion of the medical profession as to the exact meaning and significance of many of the terms employed in what may be aptly designated as "the new therapy."

The present book is in no sense of the term one for practical purposes, but as a guide to the principles underlying some of the most complex problems in connection with bacteria, their products, and the effects of the latter, it will be found to be admirable as a concise exposition.

Though not profusely illustrated, the few diagrammatic representations given are amply sufficient and helpful in elucidating the various points dwelt upon in the text.

At the beginning there is a chapter devoted to the general functions of microbes—the term "microbes," while savouring of vulgarity, is at all events a less cumbrous word than "micro-organisms"—which is of special value, more especially that part dealing with nitrification and de-nitrification processes. Following this is a part dealing with the microbial flora in man and animals, and in this connection the problem of whether or not the bacterial content of the normal human body is helpful, with the opposing views of Pasteur and Metchnikoff on this important point, is most interesting reading. Further, the questions as to whether or not the large intestine is a useless organ, and also the permeability or otherwise of the uninjured mucous membrane of the whole intestine to microbial invasion, are of the highest interest and importance, though the difficulties of truly scientific investigation here are clearly pointed out.

The chapters on the anatomy and physiology of microbes are naturally of subsidiary value to the ordinary reader. Even here the effects of heat and light upon microbes are of sufficient importance to merit the most careful perusal.

The pathogenicity and virulence of microbes is dealt with very fully, and this is possibly the best chapter in the book. It is not generally properly realised that both pathogenicity and virulence vary enormously, and that these properties cannot be studied by the ordinary methods of culture and examination.

Phagocytosis receives due attention, and the diagrams here are particularly helpful.

Toxins and venoms are again carefully and fully discussed, and the same remark applies to the very full chapters on immunity. The problems involved in the much-discussed phenomenon of anaphylaxis are very fully gone into.

The applications of bacteriology are now so numerous that it can hardly be expected that in the small compass of this work the treatment is at all exhaustive, but as far as possible these receive mention, including Widal's reaction and the principles underlying this reaction, complement fixation, Wassermann's reaction, the various tuberculin reactions, &c. Vaccines and sera naturally get considerable space allotted to them, although here again the space does not permit of really full treatment of this branch.

The concluding chapter deals with chemical remedies, and of course salvarsan and atoxyl are described and their actions investigated at some length.

The book as a whole can be unreservedly recommended: the glossary at the end will assist in enabling the reader to follow the subject matter with greater ease and mental comfort. Excellent pictures of Pasteur and Metchnikoff are given before the introduction.

Kidney Diseases. By W. P. HERRINGHAM, M.D., F.R.C.P. With Chapters on "Renal Diseases in Pregnancy," by HERBERT WILLIAMSON, M.D., F.R.C.P. London: Henry Frowde and Hodder & Stoughton. 1912.

THE reviewer into whose hands there falls a volume of the Oxford Medical Publications is led to expect a work exact, authoritative, original, and concise, and these are precisely the qualities possessed in the highest measure by Dr. Herringham's book on kidney diseases. The subject of Bright's disease is well worn, of limited extent, and, on the face of it, simple; and one would think that in the mass of writing to which it has given birth unity of classification and conception might long since have been attained. But the controversies go on—as to the relation between large white kidney and secondary contracted kidney, as to the vascular or renal origin of interstitial nephritis, as to the nature of uræmia. It is to work like that of Dr. Herringham, in whom the clinician and the pathologist meet in the same person, that we must look for their ultimate settlement. His book covers the whole subject of renal diseases, and gains an additional completeness, if the expression is admissible, from the chapters in which Dr. Herbert Williamson ably discusses the subjects of puerperal eclampsia, nephritis, and pyelonephritis. Its main interest, however, lies in the vexed questions already alluded to, and in its contribution to the subject of hæmoglobinuria.

The pathology of paroxysmal hæmoglobinuria, as appears from Dr. Herringham's discussion, is that the blood of the sufferer contains an amboceptor, which becomes actively hæmolytic only after the blood has been first cooled in the peripheral circulation, as by exposure, and subsequently raised again to blood-heat. If the erythrocytes dissolved are few, the hæmoglobin is dealt with by the liver and spleen, and only a transient albuminuria occurs; if they are many, hæmoglobinuria is the result. It is known that such albuminuria is frequent after chill, and its cause is therefore to be sought in a slight hæmolysis, quite analogous to that which, in its more severe form, produces paroxysmal hæmoglobinuria.

On the subject of uræmia it is interesting to note the author's speculation—as yet, as he says, "pure guesswork" —that possibly its symptoms may be connected with the absorption of dying renal cells.

Passing to nephritis, Dr. Herringham's main position is that all the divisions of chronic diffuse nephritis are artificial, and that it is more correct to represent the forms with much epithelial change (large white kidney) and with much fibrotic change (contracted kidney) as radiating from a common centre, with many intermediate radii (transitional forms) between them. In this he expresses what is at first sight a commonly accepted opinion; but the figure of the radii, or "fan," as he puts it, shows wherein his attitude is his own. Radii are in contact only at one point—their centre of origin. The typical large white kidney, then, is not a stage on the way to contracted kidney, nor is the contracted kidney a final result of the large white; and however many intermediate forms there may be, each pursues its own radius of development. The intermediate forms have symptoms partaking partly of those of large white kidney, partly of those of contracted kidney, according as they are nearer to one or other of the divergent end-forms, which present large differences, both in their symptoms and in their course. The large white kidney "is marked by great general dropsy, and by the absence of arterial disease, retinitis, and uræmia. The patients die by gradual asthenia." The characteristics of the contracted kidney are arterial changes and fibrosis, and death occurs from uræmia, cerebral hæmorrhage, or inflammatory complications. In the one case the tendency is "almost entirely to epithelial degeneration;" in the other to fibrotic change.

Dr. Herringham's views upon chronic interstitial nephritis are also very definite. He sees no reason to discriminate between a primary interstitial nephritis and the arteriosclerotic kidney, and he considers that pure interstitial nephritis is a vascular and not a renal disease. Where parenchymatous disease is also present he regards it as due to a coincident chronic diffuse nephritis, to which the arterial changes may be held to predispose. He supports his opinion by the evidence of many cases dying of diseases other than renal, in which he has found vascular changes, with fibrosis around the vessels, without change in the tubules or glomeruli, and often without albuminuria or casts.

There are many points of interest in the other sections of the book, notably in the chapters on cardio-vascular changes, on renal calculus, and on the effects of vaso-dilators on high blood-pressure. Recent analyses, it seems, have shown that the older statistics of the relative frequency of uric acid and oxalate calculi are in need of revision. Dr. Herringham's careful experiments throw much doubt on the value of vaso-dilators in reducing blood-pressure, their failure being due to permanent changes in the vessels. On medicinal treatment in general his attitude is mainly negative, and the majority of experienced practitioners will agree with him that in chronic nephritis more is to be looked for from hygiene and appropriate diet than from drugs.

It would be easy, did space permit, to direct attention to other subjects of practical and speculative interest; it must suffice to add that it is no labour to read Dr. Herringham, whose sparkling style handles difficult subjects with an almost French lucidity.

Malingering, and its Detection under the Workmen's Compensation and other Acts. By ARCHIBALD M'KENDRICK, F.R.C.S.E. Edinburgh: E. & S. Livingstone. 1912.

THIS little book appears at a most appropriate time; it is quite evident that the subject of which it treats will bulk even more in the near future, and any help which the practitioner can derive from a reliable source will be doubly welcomed.

The author quite properly emphasises the fact that the book should appeal not to the medical profession only, but almost with greater force to the legal profession and insurance companies.

An exact definition of malingering is very difficult, as there is no sharp line of demarcation between true malingering and simple exaggeration of symptoms, the latter being a well-known feature in the daily work of the general medical practitioner.

Skilled malingering or deception is always difficult, and in many cases impossible, to detect, and the investigation of supposed cases of this nature forms a most thankless task. It has to be remembered that the most obscure pain may have a very real and organic origin. For example, it is not impossible that a persistent and severe pain in the back, which baffles all the usual methods of investigation, may have as its cause an aneurysm of the aorta; this makes us chary of ascribing more or less indefinite conditions, which have only pain as their common ground, to malingering, as a single case of this kind may blast a medical man's reputation for ever.

The author describes three definite varieties of malingering under the headings—"The Real Malingerer," "The Partial Malingerer," and "The Unconscious Malingerer."

Some very helpful advice is given by the author under the headings of "Pain," "Stiff Joints," "Loss of Power," "Back Injuries (including Lumbago and Railway Spine)," and "Intercurrent Diseases."

In the differential diagnosis of suspected cases the use of modern methods—such as the *x*-rays, electrical testing of muscles and nerves, &c.—receive due prominence.

The actual medical examination of a given case, and the subsequent report thereon, give valuable information just where serious mistakes are apt to be committed. The actual report is, of course, the most important item as far as the practitioner is concerned, and it must be drafted with the most scrupulous care. Draft reports are appended.

The only objection which can be taken is that the treatment is rather superficial and inadequate, but this is a defect which can be easily remedied in future editions, which will certainly be called for.

Text-Book of Ophthalmology, in the Form of Clinical Lectures. By Dr. Paul Roemer, Professor of Ophthalmology in Greifswald. Translated by Dr. Matthias Lanckton Foster. London: Rebman, Limited. 1912.

This is an excellent book, and one which with great confidence we can recommend alike to students who are studying the subject and to practitioners of ophthalmology. The volume before us is only a part of the entire work—the rest has not yet been translated—but, so far as it goes, it is entirely satisfactory.

The learned author founds his teaching essentially on pathology, and when we mention the fact that the book is dedicated to Professor Paul Ehrlich it will show the standpoint of Professor Roemer. It is a great relief, in these days of scraps and smatterings, to come on so solid and excellent a piece of writing as this.

As to the contents of the part under review, it deals exclusively with the methods of examining and the diseases of the anterior segment of the eye, including the conjunctiva and the lens, but excluding the eyelids.

It only remains to be said that the illustrations are excellent and that the translator has done his work well. We hope that the rest of Professor Roemer's book will soon be available for English-speaking students.

The Eye, Ear, Nose and Throat. The Practical Medicine Series. Chicago: The Year Book Publishers. 1912.

THIS volume is one of a series of ten dealing with the literature of medicine and surgery for 1911. Each volume is, the publishers state, "complete for the year prior to its publication on the subjects of which it treats." This is a tall order, and it would not be difficult to controvert it, but publishers, like poets, have a licence. It must, however, be acknowledged that the editors of this particular volume at anyrate have done their work well, and if a preponderating number of American contributions to these special subjects is reviewed, that is only natural. One could, if one were censorious, point to British and continental contributions of importance which have been overlooked, but, as it stands, the book is a valuable compendium of information. It will prove of service to the general practitioner who wishes to have at least a nodding acquaintance with the advances in eye, ear, nose, and throat work; and to the specialist also it can be recommended as a reliable and convenient book of reference.

The Sexual Life of the Child. By DR. ALBERT MOLL. Translated from the German by DR. EDEN PAUL. London: George Allen & Co. 1912.

THE amount of harm that can be done by a book of this kind is incalculable, and on the *per contra* side there does not appear to be anything like a preponderating weight.

Granted that in almost every case the child obtains his or her first sexual knowledge in some more or less illegitimate way, the real difficulty for the parent is to find out exactly when this sexual knowledge is about to be obtained, and at this psychological moment to anticipate the source of information. No one can deny that to address children prematurely on sexual matters is to commit a graver error than to leave them in ignorance, but as each case is a law unto itself as to time when such information must be obtained by one channel or another, the difficulty is too great for any help such as the present book presumes to give. For this reason it does not seem useful to draw attention in detail to the subject matter, with the exception of one or two minor points.

An inset publisher's slip intimates that the sale of the book is limited to members of the medical, scholastic, legal, and clerical professions. This is quite incorrect, as the book can be ordered and obtained by anyone, although it may not be officially issued to those outside the professions.

In dealing with masturbation in the case of both male and female children, the author properly emphasises the fact that this may be, and no doubt often is, done with no knowledge of evil, and here the watchful mother may and ought to be always on her guard lest this habit may be acquired and persevered with in all innocence. In this connection the last chapter in the book, on sexual education, may be read with profit.

Read simply as a study of the sexual development in the child there is much that is interesting, suggestive, and instructive, and possibly there may be members of the professions named above who may derive enlightenment on matters which are certainly little spoken of in any society. We must give the author credit for assuming that it is with this hope the book has been published, otherwise it would have been better left in German in which it was published originally.

There are no illustrations, and certainly this is a point in the book's favour.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

EDITED BY ROY F. YOUNG, M.B., B.C.

MEDICINE.

The Lymphocytosis of Infection. By Richard C. Cabot, M.D. (*American Journal of the Medical Sciences*, March, 1913).—Occasionally infections usually associated with polynuclear leucocytosis show instead an increase of lymphocytes. The group of such cases to which Cabot draws attention appears to be connected with a streptococcic infection. Their practical interest to the clinician arises from the fact that they are liable to be confused with lymphatic leukæmia. Four cases are shortly recorded. The highest leucocyte count noted was 30,500, and of these 75 per cent were lymphocytes. Cabot concludes that—

1. Wound sepsis, boils, and widespread streptococcic adenitis of tonsillar origin may be accompanied by a lymphocytosis so pronounced as to suggest lymphatic leukæmia.
2. No reason is known for this substitution of lymphocytosis for the usual polynuclear leucocytosis of infection.
3. The distinction between such a lymphocytosis (accompanying a widespread adenitis) and leukæmia depends upon the recognition of an infectious origin for the adenitis, upon the lesser degree of lymphocytosis in the infectious type, and upon the course of the disease.—ARCHD. W. HARRINGTON.

Concerning the Symptomatic Differentiation between Disorders of the two Lobes of the Pituitary Body. By Harvey Cushing, M.D. (*American Journal of the Medical Sciences*, March, 1913).—It has been generally conceded that skeletal overgrowth as in acromegaly and gigantism is consequent upon a hypophysial derangement, but that a functional hyperplasia of the gland is the underlying factor. Experimental ablation of a large part of the pituitary body in preadolescent animals leads to a striking failure of skeletal development.

General attention was first drawn by Frohlich to a syndrome, in which a tumour of the hypophysis, or its vicinity, in the comparatively young is accompanied by lack of full skeletal development, by adiposity, and by the failure of full secondary sexual characteristics to appear. Experiments on animals by Cushing and his associates showed that these clinical states were due to hypophysial insufficiency. The local tumour is only an incident, the effect of which has been to interfere with the gland's activity, and the same syndrome may occur as the result of primary hypoplasia in the absence of tumour. Further investigations led to the conclusion that the symptoms of deficiency were probably due to interference with the secretion of the posterior lobe. It was found that the constitutional evidences of glandular insufficiency could be produced by the mere obstruction of the hypophysial stalk, and Cushing believes that the secretion of the posterior lobe finds its way into the cerebro-spinal fluid. His conception is that the *pars anterior* is a typical ductless gland, which discharges its secretion into the large sinusoidal channels which traverse it. It is chiefly related to factors of skeletal development, and may be considered to elaborate a hormone capable of stimulating growth. On the other hand, the neuro-epithelial *pars posterior* is, in a sense, a gland of external secretion, its active principle or principles reaching the blood stream by way of the cerebro-spinal fluid. The pars posterior is also closely related to metabolic processes, and particularly to the assimilation of carbohydrates. Deficiency of its secretion leads to marked increase in tolerance for sugars, with tendency to adiposity, a subnormal temperature, somnolence, dry skin, polydipsia, polyuria, loss of hair, and epileptiform disturbances. Excess of secretion causes tissue waste with loss of flesh, a relative intolerance for carbohydrates, often with spontaneous glycosuria, a moist skin, &c.—symptoms the reverse of the former.

Cushing describes three syndromes—(1) the acromegalic syndrome; (2) the syndrome of dystrophia adiposogenitalis; and (3) the syndrome of overgrowth with adiposity, and describes cases of the two latter. The view is advanced that—

1. Skeletal overgrowth, possibly combined with certain cutaneous changes and hypertrichosis, is an indication of anterior lobe hyperplasia.

2. On the other hand, certain types of adiposity with an increased assimilation limit for carbohydrates, often with dry skin, subnormal temperature and pulse, are characteristic of the metabolic disturbances from posterior lobe insufficiencies. Hypotrichosis and sexual dystrophy are common accompaniments.

3. Assuming the combination of these factors, certain, not unfamiliar, clinical syndromes, in which overgrowth is associated with adiposo-genital dystrophy, can be explained. They differ from the accepted syndrome of Frolich, not only in the absence of hypophysial tumour with enlargement of the sella turcica, but also in their opposed skeletal features. These physical states, in brief, are interpreted as the expression of an anterior lobe hyperplasia, combined either with posterior lobe hypoplasia, or with what is in effect the same thing, stasis of posterior lobe secretion.

—ARCHD. W. HARRINGTON.

SURGERY.

Roentgen Rays in Actinomycosis. By Richard Levy (*Zentralbl. f. Chirurgie*, 25th January, 1913).—The good results which have followed the application of x-rays to surgical tuberculous conditions strongly suggested to the author the extension of the treatment to actinomycosis. On account of the biological relationship between bacillus tuberculosis and the ray fungus, and of the frequent clinical similarity of the morbid processes evoked by these two organisms, he thought that such an experiment was not uncalled for.

The first case treated was that of a man, aged 41 years, on whom a radical operation could not be performed on account of the disease having extended to the lower jaw and to the tongue. This patient was also suffering from hypersecretion, not altogether due to the large doses of iodine which he had been receiving.

After one application of the rays excessive secretion ceased, and in a few days the fistula had closed.

It might be argued, however, as this patient received surgical treatment and medication with iodine as well as the rays, that therefore the value of the last was not definitely proved, so in the next case the author abstained from all other forms of treatment except that by x-rays.

This patient had already been operated on several times, and on the last occasion, a year before, a portion of the cheek and of the upper jaw had been removed. He came for Roentgen treatment suffering from a typical infiltration of the right cheek, with severe fistulæ. The diagnosis was confirmed by microscopic examination. Under the Roentgen rays, which were applied as for tuberculous lymphoma, the infiltration disappeared and the fistulæ closed.

The author has been able to find no reference in the literature to this form of treatment, but he hopes if it has been practised elsewhere that his communication may serve to draw fresh attention to the subject, as he considers that surgical treatment of actinomycosis is futile.—CHARLES BENNETT.

Surgery of the Spleen. By William J. Mayo (*Surgery, Gynæcology, and Obstetrics*, March, 1913).—This paper deals with the surgical treatment of splenic enlargements, under which are included myelogenous leukæmia, splenic anæmia, hyperplasia of unknown causation not accompanied by anæmia, conservative splenic enlargements due to organisms and new growths; also movable and wandering spleens.

In the perversion of the dual functions of the spleen, production of white corpuscles and destruction of obsolete red cells, the diseases most common to the spleen have their origin. A great over-production of white blood corpuscles, associated with an enlarged spleen, constitutes leukæmia of the splenic type. An excess of function in the destruction of the red corpuscles produces not only hyperplasia of the spleen, but an attending anæmia from which splenic anæmia takes its name.

In myelogenous leukæmia the enlarged spleen is but a part of the general condition, and so splenectomy is unavailing. In splenic anæmia splenectomy has given good results. In a few cases of tuberculosis, when the infection was apparently primary and confined to the spleen, the spleen has been removed, with cure of the patient. In chronic malaria, with hyperplasia of the spleen, Jonnesco and others have removed the spleen, with gratifying results. In cases of movable spleen the author advises splenectomy in preference to splenopexy.

At the Mayo Clinic twenty-seven splenectomies have been performed, with two operative deaths. Of these, eighteen were cases of splenic anæmia.

This paper gives the technique, with illustrations, of splenectomy.

—ROY F. YOUNG.

A New Method of Diagnosticating Renal Tuberculosis. By Lee Buerger, M.D. (*American Journal of Surgery*, February, 1913).—The method employed is cystoscopic excision of mucous membrane at the ureteral meatus on the suspected side. It is employed in cases where tubercle bacilli cannot be found, and the cystoscope reveals no definite lesion, or merely œdema. In the author's case there was œdema of the mucous membrane round the left ureter. With an operating cystoscope small pieces of this membrane were removed for examination. The microscopic sections revealed numerous miliary tubercles in the submucous tissue and marked *œdema bullosum* of the stroma. A tuberculous kidney was removed at a later date.

—ROY F. YOUNG.

Tumours of the Bladder: A Note on the Present-day Methods of Treatment. By Paul M. Pilcher, M.D., *American Journal of Surgery*, April, 1913.)—The principal tumours of the bladder which stand out as clinical and pathological entities to-day are the single villous papilloma, which is benign; the multiple villous papillomata, which may be benign, but are usually malignant; the villous growth, arising from an ulcer base, which is usually malignant; and the typical infiltrating carcinoma.

The writer has been impressed with the rapid and frequent recurrences of carcinoma where a resection of the bladder has been done. Since the high frequency spark, both monopolar and bipolar, has been introduced in the treatment of bladder growths he has given up the previous method. He has treated a number of cases of multiple papillomata of the bladder by the high frequency spark with an entire disappearance of the growth, and he now uses this method as a routine. In dealing with recurrent growths, where new growths appear in their original form, or spring from an ulcer base left after extensive removal of a tumour, he has found the D'Arsonal current, the bipolar high frequency spark, to give unexpectedly good results.

In cases of carcinoma of the bladder, which would otherwise necessitate extensive resection, he now relies entirely on the actual cautery and the bipolar high frequency spark, as giving better and more permanent results than resection. If treatment prove ineffectual through the cystoscope, a suprapubic cystotomy should be performed, and the tumour mass destroyed by the actual cautery and deep penetration of the base with the bipolar spark.—ROY F. YOUNG.

MATERIA MEDICA AND THERAPEUTICS.

Discussion on the Non-operative Treatment of Malignant Disease (*Proc. Roy. Soc. Med. Lond.*, 21st January, 1913).

Dr. Horder, in opening the discussion, pointed out the importance of palliative treatment, though he considered that at present operative treatment was the only means of cure. He stated that the therapeutics of cancer fall under two headings—I. Preventive and curative efforts; II. Palliative efforts. He then discussed various of these methods—

I. *Preventive and curative efforts.*—1. *The method based on the idea that cancer is due to errors in tissue metabolism capable of correction by a diet specially chosen.*—He did not consider the purin free diet was of much use. The idea that demineralisation of food was the cause of cancer, and that by adding suitable salts to the food cancer might be cured, was a form of treatment which left him cold. A somewhat more convincing idea was that, by producing scurvy, retrogressive changes might occur in a cancer.

2. *The method based on the idea that specific immunity to cancer can be established in a manner analogous to infective processes.*—Little or no success has been obtained from methods of active immunisation.

3. *The idea that radio-activity can lead to retrogressive changes in the cancer cell.*—Most success has been obtained from radium and x-ray treatment. Probably we cannot expect much more from these methods than we have already got, because their action is not specific for the cancer cell.

4. *The idea that the cancer cell is more readily destroyed by certain toxic agents than are the cells of the hosts.*—Microbic toxins, such as Colley's fluid, probably have no curative action, but they may have some palliative action by alleviating septic conditions. Diastatic ferments have sunk into the limbo of forgotten efforts. The injection of exudates has been tried, but the value of this method has not been demonstrated. Certain toxic drugs have been tried, such as selenium, arsenic, copper, and are still *sub judice.*

II. *Palliative efforts.*—The speaker was convinced that the most satisfactory line to adopt in most cases was a combination of several different measures. For example, in an inoperable case of sarcoma x-rays, radium, and salvarsan might be tried. In the relief of pain various drugs might be used, such as aspirin and others of the coal-tar series, also analgesic and antiseptic lotions. Opium was not always necessary.

Dr. Copeman laid stress on the fact that there were many fallacies that must be taken into consideration before a cure could be attributed to a particular form of treatment. Two such fallacies were errors in diagnosis and spontaneous cure. He had tried thymus gland, salvarsan, calcium lactate, and hydrochloric acid without success. Venesection and the re-inoculation of the serum from the blood thus obtained had given encouraging results, but eventually all the patients died from cancer. Every possible derivative of the sexual organs had been tried, but no encouraging results had been obtained. Possibly "*trephones*," substances which had a great effect on the growth of young and embryonic tissue, might be an agent in the production of cancer. By eliminating these from the diet he had seen a certain amount of improvement.

Professor Grunbaum mentioned several cases which he had treated with snake venom. Some of these he had benefited, but it was too soon as yet to say whether any had been cured.

Mr. Douglas Harmer explained his method of cauterising with a high frequency current. He did not claim that this procedure would cure malignant disease, but thought that it relieved symptoms in certain cases.

Dr. Herschell related his experiences in the treatment of malignant disease with injections of colloid copper. The four cases mentioned were all improved by the injections. In each case the disease was situated in the stomach. Histological examinations of the tumours were not made.

Dr. Lewis Jones said that, as far as he was aware, the evidence that x-rays can cause arrest of growth in carcinoma was doubtful or negative.

—G. B. Fleming.

A Collection of Facts, Ideas, and Theories relating to the Diverse Elements that Contribute to Success in Treatment of Joint Diseases. By H. W. Marshall (*Boston Med. and Surg. Journ.*, vol. clxviii, No. 10).—The author considers that joint disease is caused by a combination of factors. He discusses the relationship between absorption from the bowel and excretion from the kidneys, and considers that a disturbance of the normal balance between these may cause various forms of joint disease. He thinks that visceral ptosis is also a result of abnormal substances accumulating in the blood, and that ptosis in its turn accentuates disturbances in absorption. Consequently, he thinks that visceral ptosis should always be treated in cases of rheumatism, although not to the exclusion of other therapeutic measures.

In the treatment of ptosis he recommends general tonics, attention to the renal functions, intestinal disinfectants, and, if necessary, supports to the abdomen and rest in the recumbent posture after meals. The use and abuse of cathartics is also considered.—G. B. Fleming.

DISEASES OF THE SKIN.

New Researches on the Etiology of Alopecia Areata. By R. Sabouraud (*Annales de Dermatologie et de Syphiligraphie*, February, 1913).—During the course of a statistical enquiry into the relative frequency of alopecia areata at different ages, Sabouraud has brought to light the interesting fact that this disease is not at all uncommon in women at the time of the menopause. His statistics show that in the female sex alopecia areata is most frequently encountered between the ages of 5 and 15, and that thereafter it becomes steadily rarer from year to year, until towards the age of 50 it is practically never seen. It then quite suddenly reappears, and is found to be nearly as common in women of 50 as in girls of 15. This fact appears to indicate that there exists some relationship between the ovarian functions and alopecia areata. Sabouraud cannot, of course, regard ovarian disturbance as the only, or even as the principal, factor in the production of this affection in women, but he has deemed the subject worthy of careful study.

In the present paper he gives an account of some cases in which the relationship was apparent.

Case 1 was a woman, aged 50, whose alopecia was of two years' duration, and had commenced one year after the cessation of the menses. She presented three bald areas—one occipital, the other two arranged one on each side of the head, and of almost identical size and shape. Both thumb nails were longitudinally furrowed.

Case 2 was a patient who was attacked with alopecia seven months after the menopause, and whose baldness was becoming generalised. The scalp was almost entirely denuded.

Very similar accounts are given of other eight cases in which the menopause was complicated by alopecia areata. Accompanying each is a diagram illustrating the distribution of the bald areas.

Sabouraud has also observed alopecia areata following the disappearance of menstruation from causes other than the menopause. In two cases it occurred during pregnancy. One of these patients, a primipara, was, at the third month, attacked with an alopecia which, commencing in the left eyebrow, gradually involved the whole head. Recovery did not take place until after the birth of the child. The second patient had had two previous attacks of alopecia. The first began in the seventh month of her third pregnancy, and lasted for over a year. Two years later the bald patch again appeared, apparently owing to the fatigue of nursing her child in a serious illness. In the following year, during the first month of her fourth pregnancy, alopecia once more made its appearance. There were three bare areas in the occipital region. Gradual spontaneous recovery took place.

A third group of cases recorded by Sabouraud are those alopecias which followed ovariotomy. He cites two examples. A woman of 34 had undergone double ovariotomy for salpingitis ten years previously. She improved greatly in health, but three years later suffered from alopecia areata. At present shows a return of the affection as a small occipital patch. Another, aged 40, had double ovariotomy for cystic ovaries at 35. After three months, suffered from intense headache at intervals. Three years later, alopecia areata in the form of seventeen scattered patches. This lasted two years, and then a partial re-growth of hair took place.

Although dealing with alopecia areata in the female, the writer mentions, alongside of these cases, an instance of generalised alopecia areata in a man of 40, whose head was completely devoid of hair, and who had not a single hair upon his whole body. This condition had lasted for fourteen years, beginning as a small bare area on the chin and extending gradually. The scalp became involved in about three years, and in six years baldness was complete. This patient had also been the subject of a double tuberculous orchitis. He could not say whether the orchitis had preceded the alopecia, or *vice versa*. Six years ago he underwent double castration. The operation had no effect upon the baldness.

From observation of these cases Sabouraud does not draw any premature conclusions as to the genital origin of alopecia areata, but merely remarks upon the peculiar relationship. He points out that while attention has been paid to heredity, previous illnesses, state of dentition, &c., in cases of alopecia areata, no note has been taken of the state of the generative system. He concludes—

1. That there exists in women a type of alopecia areata following the menopause. Sometimes it is trivial, sometimes of long duration.
2. That alopecia areata may follow ovariotomy. Prognosis is equally variable.
3. That, more rarely, alopecia areata accompanies pregnancy, and even several successive pregnancies. This form is relatively benign.
4. That in one case alopecia areata appeared in a man who, at the same time, suffered from double tuberculous orchitis, the baldness being complete and permanent before double castration was performed.

—Douglas J. Guthrie.

On the so-called "Eczema Marginatum" of Hebra. By S. Nicolau (*Annales de Dermatologie et de Syphiligraphie*, February, 1913).—The author begins by giving a historical survey of our knowledge of this disease. Hebra was the first to describe it, but failed to recognise its parasitic nature. A mycelium was discovered in scrapings by Bärensprung, which he and many other observers regarded as identical with the trichophyton of ringworm.

Sabouraud, however, proved that the fungus was not a trichophyton, but presented special characters of its own, and he named it Epidermophyton inguinale. He also proved that "eczema" of the toes is in many cases due to this parasite.

Nicolau then proceeds to analyse the cases which he has observed. It is curious to note that most of the patients were of the better class, and that many of them were in the habit of bathing daily.

Frequently the inguinal region was not the only part affected, but nearly always the disease made its first appearance there. Thirty-five cases are recorded. In twenty the inguinal region was alone involved ; in most of the other cases the disease also affected other folds, such as axillæ, submammary fold, gluteal fold, or between the toes. On one occasion the axilla alone was the seat of the lesion, and in two cases it was limited to the toes.

The resemblance between inguinal eczema marginatum and certain body ringworms is very close. It is a dry red patch, covered with fine scales, with a cyclic margin, and having its seat of election not, strictly speaking, in the inguinal fold, but on the inner side of the thigh and adjacent surface of the scrotum. On the feet the affection assumes all the characters of a vesicular eczema or a dysidrosis. It is very persistent, and if left untreated may last for years. Between the toes the epidermis is thick and macerated, and one finds numerous sago-grain vesicles—some open, some still intact. Hyperidrosis is marked. Cases have been reported in which the fingers were affected. If the disease is to be diagnosed with any certainty, one must search for the fungus with the microscope. A scraping examined in 40 per cent potash solution shows the characteristic mycelial filaments. These are of wavy outline, and made up of rectangular segments of variable length but constant diameter. Cultures on maltose agar begin to grow in five to eight days, appearing first as a white spot, which increases until in four or five weeks it has attained its maximum size, and is of greyish-yellow colour, having in its centre an irregular crateriform depression. The slightest variation in technique modifies the appearance of the cultures, and this has led some observers to differentiate several species of epidermophyton. In hanging-drop cultures one may see in great abundance the organs of fructification, which are grouped at the ends of the mycelia, and have been likened by Sabouraud to bunches of bananas.

As the disease has a predilection for folds, but not always the inguinal fold, Nicolau prefers to designate the fungus Epidermophyton plicarum.

—Douglas J. Guthrie.

Books, Pamphlets, &c., Received.

Maternity Nursing, by Sarah Macdonald. With 11 diagrams. London: Methuen & Co., Limited. 1913. (3s. 6d. net.)

Old Age: Its Care and Treatment in Health and Disease, by Robert Saundby, M.D.Edin. London: Edward Arnold. 1913. (7s. 6d. net.)

Diagnosis of Bacteria and Blood Parasites, by E. P. Minett, M.D., D.P.H., D.T.M. & H., M.R.C.S., L.R.C.P. Second edition. London: Baillière, Tindall & Cox. 1913. (2s. 6d. net.)

A Treatise on the Mineral Waters of Vichy, for the use of Practitioners, by Charles Cottar, M.D.Paris. With a Foreword by Vaughan Harley, M.D. London: H. K. Lewis. 1913. (4s. net.)

The Practitioners' Vade Mecum (P.V.M.): or, How to Cut the Drug Bill, by A. Herbert Hart, M.S. Third or National Insurance edition. London: John Bale, Sons & Danielsson, Limited. 1913. (2s. 6d. net.)

Forms of Mental Defect, by Frederick Langmead, M.D., M.R.C.P. London: J. & A. Churchill. 1913. (1s. net.)

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GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FOUR WEEKS ENDED 17th MAY, 1913.

	Week ending			
	April 26.	May 3.	May 10.	May 17.
Mean temperature, . .	49·2°	48·2°	48·6°	50·1°
Mean range of temperature between highest and lowest,	15·2°	14·3°	12·8°	16·0°
Number of days on which rain fell, ...	4	5	7	4
Amount of rainfall, . ins.	0·33	1·02	2·02	0·20
Deaths registered, . . .	374	381	338	355
Death-rates, ...	19·0	19·1	17·5	17·4
Zymotic death-rates, . .	1·8	2·6	2·4	1·7
Pulmonary death-rates, .	4·1	4·8	3·9	4·8
Deaths—				
Under 1 year, . . .	80	68	71	62
60 years and upwards, .	100	84	76	81
Deaths from—				
Small-pox, ...	...	...	...	...
Measles, ...	8	16	12	13
Scarlet fever, . . .	2	5	2	3
Diphtheria, . . .	2	5	6	...
Whooping-cough, . .	18	24	26	18
Enteric fever, . . .	1	1	...	1
Cerebro-spinal fever, . .	...	...	...	...
Diarrhœa (under 2 years of age),	9	6	11	7
Bronchitis, pneumonia, and pleurisy, . . .	59	67	59	62
Cases reported—				
Small-pox, ...	...	...	...	...
Cerebro-spinal meningitis, .	...	...	1	...
Diphtheria and membranous croup, ...	51	28	27	20
Erysipelas, ...	31	13	27	29
Scarlet fever, ...	60	68	64	55
Typhus fever, ...	...	...	...	...
Enteric fever, ...	2	3	2	6
Phthisis, ...	61	52	48	67
Puerperal fever, . .	3	4	6	4
Measles,*	433	520	522	585

* Measles not notifiable.

Sanitary Chambers,
Glasgow, 28*th May*, 1913.

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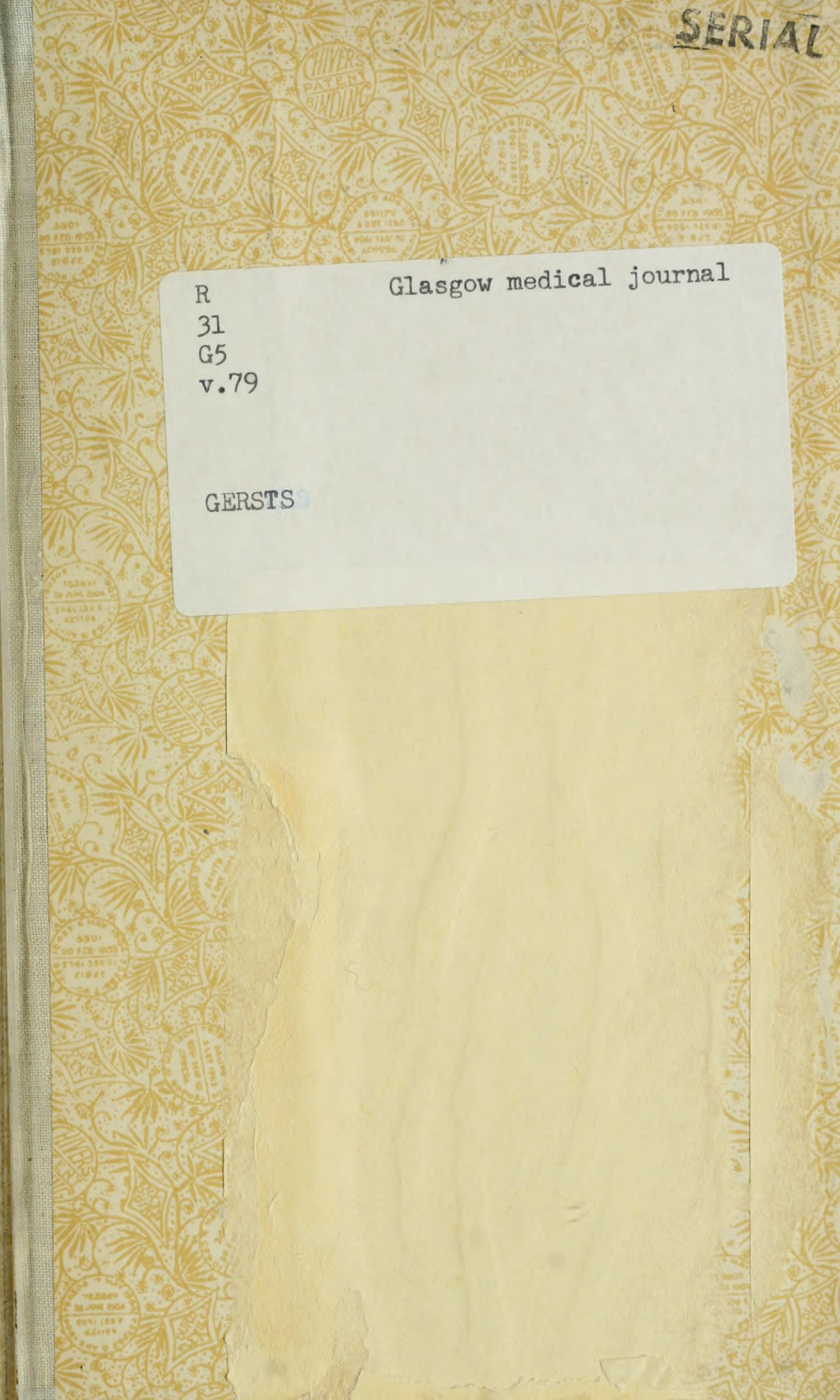

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